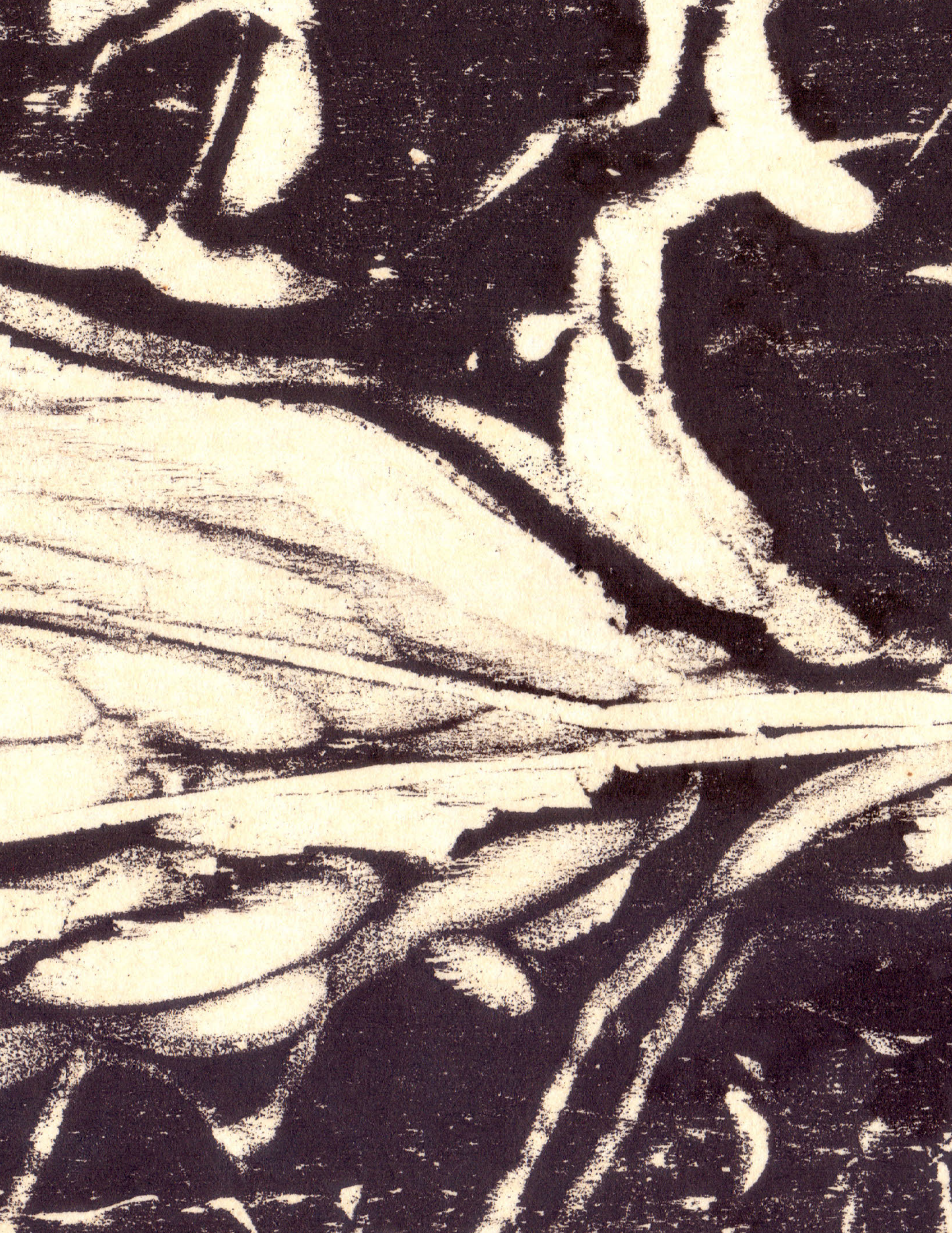

CONSPIRATIO

Fall 2024

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Periodical for
Thinking With Ivan Illich

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the quest for truth cannot thrive
outside the nourishment
of mutual trust

Ivan Illich

About Conspiratio

Conspiratio is neither an academic journal nor a popular magazine. Each issue of Conspiratio comprises essays, thematic articles, book reviews, and occasional translations of texts on or by Illich. All that appears in its pages typifies what Illich called “research by people”, which names disciplined studies conducted by those attempting to beautify their own lives by being less dependent, in thought and deed, on the market and the state. For this reason, research by people is open to public debate and contestation. Though conducted in the medium of the written word, the periodical invokes the hoped-for intimacy of con-spiration. For an orientation, consult two essays by Illich: “Research by People” & “The Cultivation of Conspiracy”.

Conspiratio encourages contributions from anyone wanting to participate in thinking with Ivan Illich. All contributions are expected to reveal a degree of familiarity with Illich’s thought and to engage it in a thoughtful way. Essays, book reviews, and translations may be submitted at any time for publication. Articles contributing to the announced theme of each issue should be submitted in response to the call for papers at www.thinkingafterivanillich.net

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Editor's letter

Marianne and Reimer Gronemeyer knew Illich well. With a group of close friends, they run the *Stiftung Convivial* in Wiesbaden, Germany. It houses the best Illich archive in the world. The collection is exhaustive, chronologically arranged, and readily available to visitors. The materials are distributed across filing cabinets and bookshelves in one large room that looks out through ample windows on a mostly quiet city street.

In late June this year, Marianne and her friends hosted a three-day symposium on the future of the *Thinking After Ivan Illich* project, of which this periodical is one element. About twenty-five persons ranging in age from the mid-twenties to the mid-eighties, from New Zealand to Argentina, passed the hours in intense discussion and, occasionally, spirited debate. It is difficult to summarize the range of subjects discussed, usually in English but with enough German, Italian, French, and even the odd Swedish phrase to demand that each strain towards understanding the other. Sometimes slight changes indicate big shifts of direction —one fruit of the discussions is that the project is now named *Thinking with Ivan Illich*.

The Stiftung also hosted a three-day gathering for about fifty persons in the nearby small town of Friesenheim, Germany, where the Gronemeyers' make their home in a converted railway station. Strewn across the green and pebbled courtyard of a country manor, participants debated papers, many of which appear in this volume among the thematic articles on Nature.

It is impossible to capture in words the spirit of friendship that quickly formed under the aegis of our gener-

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Samuel, S. Editor's Letter. Conspiratio, Fall 2024, p. 7-12

ous hosts. Suffice it to say that the eating, drinking, singing, laughing, cooking, and dishwashing that suffused these hours proved the Stiftung is well-named.

On one of those days, Reimer wanted a few of us to see the photograph of "Hermine" reproduced in the first essay. I invited him to tell us a bit about her. His essay is short and hard-hitting. Hermine is a one-hundred-and-one-year-old Namibian who lives mostly outside the reach of the economy, which now swaddles some of us in numberless goods and services. Hermine's condition was that of most humans throughout recorded history and still is for the majority. The fully serviced human is an anomaly that is destined to disappear.

The second essay explores the question of whether Illich's arguments in *Tools for Conviviality* remain relevant as what its author, Carlos Tornel, calls the 'civilizational crisis' deepens. He recognizes that the forces that disembedded Hermine from her way of life are still at work. Now, under the guise of greening the economy, the rate of industrialization continues to accelerate even as it destroys the social milieu and the natural environment. The unchecked spread of the economy is animated by the imperative to provide everyone with a comfortable life. In the spirit of Illich, Tornel says this demand is a perversion of the parable of the Samaritan. And, like Illich, Tornel believes only our cleaving close to the unsullied 'hospitality' and 'radical plurality' embodied by the Samaritan will save us from our predicament.

Renee Uribe echoes the two-sided possibility of the Samaritan by probing the distinction, in Illich, between the institutional church and the Church as the mystical body of Christ. Resisting the spread of the former requires strengthening the bonds of the latter, an appreciation for which, says Uribe, 'maternal-thinking' can bolster. Like Tornel, Uribe has been influenced by Gustavo Esteva, but also others to nurture 'mutuality'—a way of relating to others premised on preserving differences rather than forcing sameness.

Different from the three essays described above are the eleven articles that address the question of Nature. They have benefited from the discussions at Friesenheim, and the point-counterpoint of speech and writing seems a better way to think with Illich. The first article is a serendipitous exception. Agamben had written his piece on Illich's 'snail theorem' unaware of the call for articles. But the coincidence was too timely to not include it in this volume.. Technology—the snail's shell—has grown to a scale that threatens to bury us—the snail. Artificial Intelligence (AI) does not herald the intelligence of machines as much as the 'stupidity of man' who can no longer see, much less judge, when what he has created to cocoon him has begun to crush him.

Illich discovered 'amoeba words' in writing Deschooling Society (1971). Some two decades later, he encouraged his friend and German linguist, Uwe Pörksen, to write a book on the topic, which was published in English as *Plastic Words: The Tyranny of a Modular Language*. The second article reprints a conversation between Bernard Pörksen, Uwe's son, and Joseph Weizenbaum on the image of man in discussions about AI. The father described the dissolution of some words into senseless 'communication units.' The son interviewed the noted computer scientist, who cautioned against AI for symbolically reducing humans into "calculable and formalizable processes." AI dis-integrates human life by identifying thinking with computation. It was not the robots and AI machines of the future that concerned Weizenbaum. Rather, it is the symbolic effects of understanding of humans as computational machines that shook Weizenbaum to his core.

Luis Xavier's article on nature in Islamic theology and philosophy is unusual for these pages in two ways. First, it is a learned primer on the history of some key concepts—space, time, motion, matter—that inform modern natural science.

Xavier examines these concepts in the context of the historical dispute between monotheistic theology and philosophy. Whereas the former insisted on the divine creation of the world *ex nihilo*, the latter presupposed the eternity of the world. Second, in referring to the Islamic uptake of Aristotelian science before that became anathema in the West, Xavier opens a window into what technoscience has overthrown in its continuing attempt to reshape nature.

Giovanna Morelli is preoccupied with the issue of technoscience run amok. In her Illich-inspired reading, she argues that the systemic epistemology of Gregory Bateson is not a departure from but a deepening of Cartesian mechanical philosophy. Echoing Weizenbaum, Morelli emphasizes the anti-human implication of the systems-theory understanding of man as a "self-recursive communication system." Such cybernetic visions not only turn words but also human beings into plastic—configured as a set of "manipulable micro-components" managed by "a power exercised by man against the very ontology of man."

Morelli suggests that Illich and Bateson agreed that image of man in science is demeaning but disagreed about the cure. Leonardo Glenewinkel uncovers a similar dynamic in his study of the relationship between Illich and Vilém Flusser. Both keenly felt the oncoming void beneath their feet after Auschwitz and Hiroshima. Flusser used the example of an uprooted plant placed in a vase to underscore his argument for the sense of 'absurd' as being without roots. Whereas Flusser thought this groundlessness could be combated by a new and conscious use of technology, Illich pleaded for guarding the senses against technogenic dissolution.

The next three articles are at once historical and contemporary. Jose-Antonio Ullate confronts the reader with a masterful contrast between the answers of Aristotle and Thomas Aquinas to the question of why humans live together. For

Aristotle, living together was the expression of either the natural drive to procreate or the natural inclination to celebrate the pursuit of the good life. Despite his overt homage to Aristotle, Thomas radically departs from him by positing man as a naturally needy animal—unprotected against the elements, defenseless against predators and aggressors—to explain living together. The reasons for their difference are just as fundamental as the contemporary consequences of these positions are momentous, both of which Ullate documents at length.

Nicola Labanca and Christophe Kotanyi have previously contributed to *Conspiratio*. For this issue, Labanca not only offers his translation of Illich's *The Social Construction of Energy* but also his commentary on 'energy' inspired by it. A trained physicist, Labanca notes that 'energy' is a term that even Nobel laureates have confessed to not understanding. He emphasizes that energy is not a thing but rather something imputed to specific transformation processes—a plane flying, a woman running, and so on. If Labanca prompts us to suspect the validity of such ruling ideas as the 'need for energy,' which seem to drive much of global politics, then Kotanyi, the astrophysicist, invites us to doubt the scientific enterprise itself. For him, scientific knowledge is founded on insensible notions—gravity, photons, and the like—and therefore beyond independent verification through experience. Moreover, he asserts that science is fraudulent when, like the science of the Big Bang and black holes, it implicitly assumes a harmony between the contradictory theories of quantum mechanics and the theory of relativity. Technoscience has thus turned against its maker, who is diminished in stature and feels shame in front of his dazzlingly incomprehensible creations.

The last three articles in this issue devoted to the question of nature strike a different key. In a piece of excellent philosophical phenomenology, Lapo Chittaro carries the reader into the depths of what he calls 'the encountering body.' He says the eyes, mouth, heart, and viscera anchor the encounter between you and me that is also open to a third. Chittaro's sentences reveal the abyss separating scientific descriptions of man and his lived reality; the chasm between "recursive communication systems" and participants in a hospitable atmosphere. Seonaid Abernethy shares her work as a lawyer who fights to make room for restorative justice within the interstices of criminal law. Her account of the efforts of defendants and plaintiffs to transcend the letter of the law by discovering the spirit of justice is a bracing response to the call by Italo Calvino in *Invisible Cities* to give room to "who and what in the midst of inferno, are not inferno." Sometimes, the who and what do not assume human form. Sometimes, we encounter them as dung beetles. In the last article on the theme of this volume, Marianne Gronemeyer convinces us that she encountered the dancing dung beetles because their ability to reveal themselves was dynamically connected to her ability to suffer them. Marianne says that one suffers or bears another only when one stops and listens to them.

This may well be the nature of things. The world discloses itself only to those who, like Hermine, can bear it.

Sajay Samuel
October 2024
State College, PA

Essays

p. 16, 17 | Photography by Pietro Sutera

Hermine—the unserved life

by Reimer Gronemeyer

Hermine has only one tooth left. She was born in 1916—so today, in April 2024, she is 108 years old. She wonders why she has kept this tooth. She lives in Namibia, where she is a living example of an existence before, alongside, and outside a service society. She was given the name "Hermine" a long time ago by the white government—the original name with its clicking and snapping sounds was a tongue-twister for the white-dominated administration. That is why she was quickly named "Hermine."

My visit to her in April 2024 demonstrates that the excessive service society to which we central Europeans have become accustomed is a special case in human history. Hermine's household shows the beginning and the end of this peculiar society. To us visitors, Hermine in her hut appears like a special case of human existence. But as a matter of historical fact, it is we who are the special case, while Hermine represents the ordinary, everyday human form of existence, still dominant among the eight billion people on the planet. Most people on the planet have only peripheral contact with the service society. Hermine cannot afford it; it does not exist for her, and, surprisingly, it turns out to be something that she does not need. The long tentacles of this service society are visible in the children's hole-ridden T-shirts (golden hearts on what used to be a white background, for example), which have ended up on their backs from the mountains of disposed industrial clothing. Hermine's hut is in a stony desert, somewhere between Uis and Khorixas in Namibia, and made from rusty pieces of tin, wood, clay, plastic sheeting, and car tires.

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Gronemeyer, R. Hermine—the unserved life.
Conspiratio, Fall 2024, p. 18-20.

Hermine and her hut of waste symbolize a way of living that is the norm for most people. Hermine turns us serviced humans into a strange special case that made a surprising appearance in the history of human beings, perhaps only to disappear again, just as surprisingly.

Hermine's tooth symbolizes an existence that does not ask what could be, but what is. No prosthesis and no implant are up for debate, but the tooth that has remained raises questions. Everything in this hut, from the dusty green plastic bottle to the red plastic sunglasses, comes from the rubbish of the throwaway society. This hut looks like a terminal moraine where the rivers of consumer waste have washed up.

Old Hermine, who suddenly begins to sing and clap her hands, is surrounded by her children, her grandchildren, and her great-grandchildren. Two puppies lie between her feet. Hermine embodies the memory of another, almost vanished world. At the beginning of her life, she was part of a nomadic group that fed on wild honey and whatever grew in the forest. Later, she lived off goats and cows. She makes her own fire and her own food, walking is difficult for her, but her face is characterized by calm, the lines of toil, and cheerfulness. Plastic beads are sewn onto her blue T-shirt, probably to suggest the outlines of skyscrapers.

It is as if Hermine is poking fun at the madness of the metropolitan world. She does not really do that, but on her T-shirt, the picture of Manhattan or Frankfurt appears absurd and ludicrous. Hermine has never seen a school or a doctor, her food is simple, and she does not know of running water or electricity. She has not seen the world. Her world is here. Through her sheer presence, she makes it clear that this life is enough and that she does not have thoughts of help, development, or progress. Hermine does not need services, and you probably could not even make her dependent on services anymore.

This becomes unmistakable in the encounter with

Hermine and the tooth: The history of Homo sapiens is a history before, alongside, and without the presence of services. One could say that the idea that humans can be plied with "services" is a late thought that may only have emerged when humans were taking their last breath. Homo sapiens appeared in Africa roughly 300,000 years ago, and the first stone tools, mainly hand axes, date from this time.[1] The Chauvet Cave, discovered in 1994, is in the Ardèche River valley. Stunningly beautiful rock carvings dating back more than 30,000 years were discovered there. If the history of human civilization were plotted on a 12-hour clock, the era of services—given the 300,000 years of human life— would only appear in the final seconds of this cultural clock.

This allows a clear view. We cannot imagine a world without services. Yet more than ninety-nine percent of the time in which humans have existed, they did so without the use of such things. The end of the age of services may frighten us, but the unserved life has always been the predominant way of life for us humans.

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[1] Max Planck Society: Homo sapiens is older than we thought, mpg from 7 June 2017 (last visited on 20 April 2024)

Corruptio optimi quae est pessima: the relevance of Illich in a time of exacerbating civilizational crisis

by Carlos Tornel*

On October 19 and 20, 2023, a group of friends[1] gathered at the Cristobal Colon University in the city of Veracruz, México, to discuss the work of Iván Illich and the continuing relevance of his thought. *Is Illich's diagnosis of industrial society still valid*? *Are the tools he proposed still useful?* and *what would he say today in the face of a deepening civilizational crisis?* Very much in the spirit of Illich's *science by people*—a mode of inquiry that moves outside the interests of the market and works towards creating convivial possibilities among people, we convened around a table, sharing ideas, food, and drink. We revisited Illich's work as a source of critical thinking to address such pressing issues as climate change, green capitalism, and the post-COVID-19 world shaped by a generalized state of exception from democratic decision-making. We became convinced that Illich's critique of modern institutions remains pertinent for an age marked by ever-growing scarcity and alienation. Exploring the possibility of reclaiming conviviality given contemporary capitalism is crucial to constructing a *pluriverse* —a world where diverse realities can coexist—as the Zapatistas argue. This article explores Illich's critique of modernity, institutionalization, and the concept of scarcity. It discusses how contemporary institutions perpetu-

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[1] My deepest thanks to Elias González, Wendy Juarez, Manuel Ruelas, Jose Manuel Asún and Matthias Finger for the fruitful discussion and convivial dialogue.

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ate a false sense of universality, deepening radical monopolies and managerial control. The article reflects on Illich's belief that a digital society threatens the vernacular and concludes by calling for conviviality and interculturality as the basis of a radical pluralism or a pluriverse.

An apophatic theologian. The corruption of Christianity and its significance for modern institutions.

Giorgio Agamben has shown that Illich was always and above all a Christian thinker by connecting his young years as a priest to his critiques of modernity. In his conversations with David Cayley, Illich confirms that modern institutions are descendants of the Catholic church:

> the Incarnation makes possible a surprising and entirely new flowering of love and knowledge (...) The opening of this new horizon is also accompanied by a second danger: institutionalization. There is a temptation to try to manage and, eventually, to legislate this new love, to create an institution that will guarantee it, insure it, and protect it by criminalizing its opposite.[2]

Illich argues that it is in the matter of incarnation-crucifixion—events that hold both a historical and theological meaning—that the radical implications of the message of Jesus become clear. These events changed the world in a profound sense: for the first time, they placed the relation to others and love over the *ethnos*—communal traditions, laws, and customs—inaugurating an unprecedented way of shaping relationships with *the other*.

This is perhaps best explained in the parable of the Good Samaritan. In the Gospels, Jesus responds to a question posed by one of the apostles: ‘God says that one should love

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[2] Cayley, D. (2019). *Rivers North of the Future*, Anansi Press. 112-113.

God and one's neighbor as oneself but, *who is my neighbor?'* The parable is used to demonstrate that one's neighbor could be anyone, regardless of their beliefs, their ethnicity, or their customs. The Samaritan of the parable breaks all the pre-established rules of tradition, and he walks into what Cayley says is uncharted territory: a new vision of *ethnos* that reflects only grace, that is, the possibility of relating to others as if they were part of one's reality.[3] The Church, however, as an institution, begs the question by transforming it into '*how we should act towards our neighbors?'* Thus, modernity—through the institutions that followed the foundations laid down by the Church—is the result of misinterpreting the question posed in the parable of the Good Samaritan. By teaching it as a doctrine, the parable is interpreted as a call to service instead of a radical questioning of social structures policed by ethnic boundaries. As Illich argues,

> The incarnation is not merely a ritual act which generates a myth (...) Just as God became flesh and, in the flesh, relates to each one of us, so you are capable of relation in the flesh. (...) Take away the fleshy, bodily, carnal, dense, humoral experience of the self, and therefore of the Thou, from the story of the Samaritan and you have a nice liberal fantasy, which is something horrible. You have the basis on which one might feel responsible for bombing the neighbor for his own good.[4]

The liberal fantasy Illich is talking about refers precisely to the temptation to institutionalize the parable. For Illich, this interpretation radically eliminates the freedom of choosing in Christianity, that is, to see *the other* as a neighbor.

If the freedom to choose one's neighbor is transformed into an institutionalized obligation, whether as charity or development aid, it then perpetuates a vicious circle where the failures of the doctrine to care reinforce the illusion of the need for it.[5] The effort to institutionalize the gospel produces what Illich calls 'disabling professions' which, by creating the social category of needy people, generate dependent clients instead of free citizens. This dependency–explored further in the following section–entails a radical collapse of autonomous subsistence into the alienated consumption of professional services. Hence, modernity is not the antithesis of Christianity, but its *corruption*. The modern world of needs met by the radical monopoly of professionally delivered services is rooted in the effort to institutionalize and enforce the radical message of the gospel. In this way, lived experience is decentered in favor of producing disciplined and indifferent subjects.[6]

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[3] Cayley, D. (2021). *Ivan Illich. An intellectual Journey.* Pennsylvania: Pennsylvania State University Press.

[4] Quoted in Cayley (2021), p: 226.

Reading Illich as an apophatic theologian clarifies our present moment. First, it reveals that when the Samaritan's felt charity and hospitality are transformed into a duty, a policy, or a law, then any failure to meet this obligation becomes a punishable offense. Such a dynamic generates the 'need' for training by experts to guarantee that people obey the law. The rise of the "risk society" as discussed by Ulrich Beck can be understood as a late modern derangement of the effort to program a caring society.[7] Illich invoked 'Nemesis', the Greek goddess that personified retribution, to show the result of the process of institutionalization and over-programming which necessitate experts to manage the *inevitable* risks (or nemesis), that accompany modernity. The consciousness of risk entails a form of 'disembedding', that is, a process of dislocating enfleshed persons and placing them under a mathematical abstract management. For example, people are not given a diagnosis grounded in the experience of the patient but are handed a probability of illness based on population statistics.[8]

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[5] Esteva, G. (2020). Defender la autonomía de la democracia. *Utopía y Praxis Latinoamericana*, 25 (91): 253-265.

[6] Taylor, C. (2019). 'Prólogo a la edición Canadiense'. In, Illich, I. *Los Ríos al norte del futuro. Conversaciones con David Cayley*. (pp:19-29). México: Alios Ventos.

[7] Beck, U. (1992). *Risk Society. Towards a New Modernity*. London: Sage.

The corruption of Christianity–exemplified by the progressive management of risk– signals a turn to what Illich refers to as the 'age of systems.' Famously, Illich argued that his intent was less to think about what tools 'do' and more to unveil what they 'say.' In their effort to keep life safe and immune to all dangers, modern institutions organize it into managed abstractions. Preserving life at any cost folds it into the system as a feedback loop. This is what Illich calls, the 'ritualization of crisis' in which the paradoxical solution to any social ill can only be righted by a reform of the system itself.[9] By eliminating any outside of the system, the subject-object relationship collapses. Whereas tools reflect the user's will, the system incorporates the user into itself, it becomes a self-regulating totality, from which there seems to be no alternative, no possibility of imagining something that exists outside of it. Illich would even argue that, in this state, people no longer see themselves as beings, but as subsystems that are only 'legible' under a system that already exists.

In *Shadow Work*, Illich argued that the vernacular refers to that which remains outside economic ideology and market exchange, which are founded on the notion of scarcity.[10] Scarcity is the foundational myth of economics and thus, a key concept to dismantle to tackle the ongoing civilizational crisis. This concept is how the development enterprise gives itself legitimacy. This appears counterintuitive at first glance, as scarcity seems to be a common condition of our present and thus, it has enormous convincing power: scarcity appears always on the horizon, reminding us of the importance and relevance of institutions that promise to free us from it.[11] However, institutions produce precisely what they promise to erase: the ‘need’ for education never ends, health becomes a constant risk-management enterprise, and communication an unrelenting necessity. Hence it is not a matter of solving that which is made scarce through institutions, but to challenge the notion of scarcity as the foundational myth of our relationship with each other and nature. It is not a matter of alternative forms of economics, education, religions, or health systems, but alternatives *to* these institutionalized systems.

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[8] Illich, I. (2006). *Obras Reunidas, Volumen 1.* Ciudad de México: Fondo de Cultura Económica.

[9] Illich, I. (2008). *Obras Reunidas, Volumen 2.* Ciudad de México: Fondo de Cultura Económica.

[10] Illich, Ivan (1981). *Shadow work*. London: Marion Boyars.

Disabling professions and the rise of a green economy.

Illich proposed that modern institutions—under the universal regime of scarcity—transform as they reach certain thresholds or watersheds. The first of these is the moment in which the purpose of the institution is realized: in medicine, treatments are demonstrably effective; in terms of transportation, it is when motorized vehicles expand mobility and increase the distances traveled; in education, it creates and expands the possibility of learning. The second watershed refers to a threshold beyond which, institutions begin to produce more ills than they solve. In other words, they become counterproductive.

Counter-productivity, Illich argues, is the result of a paradoxical characteristic in which ‘the industrial staple, be it a hospital or a highway system, begins to get in the way and defeat its declared purpose.’[12] Here, tools no longer meet the needs of people but become ends in themselves. After this watershed, means become ends, verbs –which entail direct action and human agency– become nouns, independent use mutates to dependent consumption, and objectives become abstractions such as when health is measured by the number of treatments. This counter-productivity results in a paradoxical increase of inequality, a key point Illich makes in *Energy and Equity*: beyond the second watershed, equality and increased throughput production are mutually exclusive.[13] Javier Sicilia nicely sums up the argument of how counter-productivity can be recognized in modern institutions:

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[11] The most prominent of these narratives is that of planetary boundaries. See https://www.stockholmresilience.org/research/planetary-boundaries.html

[12] Cayley, D. (2022). *Ivan Illich. An Intellectual Journey.* Pennsylvania: Pennsylvania

> The church administers life and souls by criminalizing and depriving them of Christ; schools (...) stupefy and paralyze free learning experiences through pyramidal structures that frustrate and exclude; energy inhibits the freedom of our feet and their relationship with the ground and the environment, it instead makes us dependent on ever-increasing absurdities and costly means of transportation; medicine threatens the integrity of patients making them dependent on institutions and professionals, frustrating their capacity to suffer, to heal themselves and to die. The economy, which disembodied society from the social fabric, is defined through scarcity invading all environments and destroying gender and the proportional relations that constitute subsistence (...) the planning of life ends up transforming human beings into managed subjects from conception to death (*my translation*).[14]

By taking away the means of subsistence, institutions de-

State University Press, p.126.

[13] Illich, I. (2006). Obras Reunidas, Volumen 1. Ciudad de México: Fondo de Cultura Económica.

[14] Sicilia, J. (2008) 'Prefacio.' En *Iván Illich, Obras reunidas II.* (pp: 13-38) Fondo de Cultura Económica. México.

prive people not only of the means of production—as Marx thought through the concept of *primitive accumulation*—but of their cultural capacities to meet their needs on their own terms. After the second watershed is crossed, the replacement of tools by systems inaugurates an era called a *radical monopoly*, which refers to the encompassing power that institutions create over people and their needs. Once the means of subsistence have been replaced by an absolute dependence on services provided by institutions, all alternatives to these services have been rendered either inaccessible, unimaginable or even unfathomable. Radical monopoly is understood as the creation of a totality or a system in which no *outside* becomes practicable, conceivable, or even possible. Here the innate or cultural-specific abilities that people possess to subsist are made redundant or are even ruled out. These means of subsistence are replaced by needs that are imputed by the very experts who then efficiently control the resources necessary to satisfy them.

A good example of this circular reasoning is the increasing array of non-polluting technologies. The notion of greenness in contemporary society has inaugurated what Ana Isla calls the highest stage of extractivism,[15] a continuation of the old political economy now justified under a benevolent concern for the climate and the environment.[16] The notion of greenness thus entails the latest stage in a long history of alienation of the *other* as a *barbarian*, a *pagan*, an *infidel*, a *native,* or the *underdeveloped*, which, justified under the West's missionary efforts, has created a one-world world that excludes all other vernacular ways of knowing, being, and doing in the world.[17]

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[15] Isla, A. (2021). "Greening," the highest stage of extractivism in Latin America. In Brownhill, L., Engel-Di Mauro, S., Giacomini, T., Isla, A., Löwy, M. & Turner, T. (Eds.) *The Routledge handbook on ecosocialism.* (pp. 67-80). Routledge.

[16] Dunlap, A. (2024). *The System is Killing us. Land Grabbing, the green economy and ecological conflict.* London: Pluto Press.

When Illich wrote *Tools for Conviviality,* he still thought that at least two-thirds of the global population could choose not to follow the same path of industrialization and development that the Global North had taken. In other words, the notion that another modernity was possible was still at hand.[18] However, already in *Shadow Work* he saw that the vernacular was succumbing faster than previously thought into the realm of scarcity–be it as shadow work or forms of 'disvalue' necessary for the continued functioning of economic-capitalist–ideology.[19] The process of disembedding—the separation and progressive subsumption of the social into the economic realm—despite the absolute socioecological catastrophe that it would entail, was becoming complete.[20]

The green economy, or the notion of greenness is then the latest and perhaps most pernicious manifestation of a closed and completely managed system. It assumes the possibility of total control through a complete rejection of the vernacular domain that ultimately leads to a form of artificiality, or a system built on its own image.[21] The emergence of alternatives under this managed totality is a false solution that ends up being more of the same because they are alternative forms *of* education, economies, health, etc. instead of alternatives *to* them. The result usually becomes an abstraction that eliminates the distance between the being and the system: all needs, rights, and laws can only be provided by this system. The green economy exemplifies the notion of *Geopower* understood as the moment when the earth itself becomes the object of knowledge and management.

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[17] Cayley, D. (2022). *Ivan Illich. An intellectual Journey.* Pennsylvania: Pennsylvania State University Press.

[18] Beck, H. (2014). *Otra modernidad es posible. El pensamiento de Iván Illich.* México: Malpaso.

[19] Illich, I (1981). Shadow work. London: Marion Boyars.

[20] Polanyi, K. (2001). *The great transformation. The political and economic origins of our time.* Boston: Beacon Books.

[21] González Gómez, E. (2022). *Religarnos. Más allá del monopolio de la Religión.* Barcelona: Kairós. The author uses the concept of 'artificialeza' in Spanish. For a detailed version in English, please see Tornel and González, this issue of *Conspiratio.*

After the age of scarcity, the globalization of hope.

In 1988, Ivan Illich and a group of friends gathered at Pennsylvania State University to discuss, *after development, what?* During these conversations, Illich asked Gustavo Esteva—a close friend and collaborator—how he would describe the era *after* development, Gustavo recalls that he immediately answered: *Hospitality*.[22] Esteva's adoption of the concept of hospitality is based on a broader project of *radical plurality* that argues for a reading of Illich that goes beyond theology. For him, Illich's entire project is anchored on his attempt to break with 'the monocultural barrier.' For Esteva, the way Illich embodied this metaphor of the Good Samaritan was to place the intercultural question at the center of his life and work. Esteva argues that Illich chose not to become a scholar or a theologian, but to place himself at the service of 'embodied action.'

This choice sits in line with what Esteva[23] –following Raimon Panikkar[24]– would refer to as *radical pluralism*: the possibility of recognizing that, while cultures are incommensurable, there is a possibility of establishing a dialogue between *logos* and *techne*, that is between the cosmological matrixes that constitute each culture and embodied practice, action. For Esteva, Illich made a conscious choice of dedicating his life to *intercultural dialogue* as the essence of a convivial society. In other words, Illich chose not to speak as a theologian or a scholar, but to embody such a practice, first in Puerto Rico and later in Mexico, Latin America, and the Global South.[25] This intercultural project translates to a defense, a reconstitution of the creation of vernacular domain: that which remains outside the economic ideology and that would now fit into what the Zapatistas call a pluriverse–a world where many *worlds* fit–constituted through multiple autonomous movements that seek to challenge the disabling power of institutions and professions. This commitment was based on the possibility of people becoming aware of otherness, and to exist without trying to convince, indoctrinate, and help the other. Esteva argues that the key to Illich's *corruptio optimi quae est pessima* is not a matter of faith, church, or theology, but a recovery of the Samaritan's hospitality as an embodied practice, a rupture of a monocultural barrier, and a form of ethics that would shape the era of post-development.

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[22] Esteva, G. (2019c). *Post-script. In Los ríos al norte del futuro*. Illich, I. Conversaciones con David Cayley. (pp: 71-85). Querétaro: Alios Ventos.

[23] Esteva, G. (2019a). "El camino hacia el diálogo de vivires" In, Sartorello, S. *Diálogos y conflictos inter epistémicos en la construcción de una casa común*. (pp.133-168). Ciudad de México: Universidad Iberoamericana.

[24] Panikkar, R. (1990). Sobre el diálogo intercultural. Salamanca: Editorial San Esteban.

Esteva's closeness to Illich's work is rooted in his attempt to describe what he, following the Zapatista movement, called *the end of an era*.[26] As the Zapatistas declared, we are in the midst of a fourth world war, a war that is no longer fought on a battlefield, but that is wedged into our everyday lives.[27] For Esteva, this violent turn in capitalism is the result of the system not being able to reproduce itself under its own terms. What characterizes it is a descent into barbarism. While the rituals persist –such as liberal democracy and the welfare state–Esteva argues, 'they quickly become fetishisms that conform to the dominant superstitions'.[28] Under such a system, the traditional tools and recipes for social change that we depended on are no longer useful—we can no longer rely on strikes, demonstrations, and/or boycotts. The present condition is of a capitalism that has no use for living labor, but one that is increasingly dependent on the state's monopoly on violence, policing, and the use of military and other disciplinary forces, as well as other methods for shaping subjectivities such as credit and debt.[29]

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[25] Esteva, G. (2022). *Gustavo Esteva. A critique of development and other essays*. London: Routledge. P:96.

[26] Esteva, G. (2021). Hacia una nueva era. Colección Al Faro Zapatista. Buenos Aires, Argentina: Consejo Latinoamericano de Ciencias Sociales.

[27] EZLN (2015). *Pensamiento crítico frente a la Hidra Capitalista I. Participación de la Comisión Sexta del EZLN*. México: EZLN.

Esteva's response is a shift in scale—through the rejection of the traditional monopoly of politics by the state—and of approach, which entails a rejection of social hierarchies and the reformulation of politics with care for life at the center. Esteva calls this an 'ongoing insurrection', a response from the daily life of thousands if not millions of common people rejecting the pre-established forms of counter-productivity, radical monopolies, and the totality of systems.[30] For Esteva, the shattering of the myth of progress and the increasing evidence of the colonial-capitalist and patriarchal enterprises of the last 500 years, especially in Latin America, has enabled a revolution of consciousness, one that is best embedded in the Zapatista uprising. The significance of the Zapatista rebellion to recuperate the commons, autonomy, and dignity sits in line with Illich's thought and offers some hope and examples that Illich would refer to as a recovery of the vernacular.

Illich's intercultural commitment focused then on the possibility of reclaiming tools and refusing the industrial option. However, this opportunity, which was still present in the early seventies, progressively began to fade as the second threshold became almost universalized under the discourse of development. The reformulation of needs and the disabling professions had stymied the possibility of people retaining their autonomy and self-sufficiency, where alienation becomes not only material but epistemic and ontological, creating the conditions of modernized poverty. However, the recovery of the vernacular domain entails a recovery of tools and the recognition of a common roof, but even more, it entails a new form of asceticism based on a personal commitment to foolish renunciation.[31] As Jean Robert argues, the selective forms of renunciation are based on two words Illich used to describe the role of the person in the age of systems: *hexis* and *askesis.*[32] These terms refer to a disposition or a sense of proportionality and ethics. In his reflection on Leopold Kohr, Illich argues that appropriateness, both in terms of size and measure, constitutes the basis of a social morphology that is fitting to each place.[33] *Hexis* entails a personal renunciation; an attitude of openness that radically challenges the economic imperative and fearlessly explores the reformulation of what is needed. This new asceticism would then be informed by a historical study of 'how the senses have been disciplined in other societies and how they were disciplined in the West before the "cultural split" that he traces to the twelfth century.[34]

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[28] Esteva, G. (2019b). 'Repensar el carácter del régimen dominante'. In, Ornelas, R. & Inclán, D. (Ed.) *Cuál es el futuro del capitalismo*. México: Akal. P:69.

[29] For a detailed discussion see Jappe, A. (2015). *The Writing on the Wall: On the Decomposition of Capitalism and Its Critics*. London: Zero Books.

[30] Esteva, G. (2013). 'La Insurrección en Curso'. In, Ornelas, R (Ed.) *Crisis Civilizatoria y superación del capitalismo*. México: UNAM.

Illich calls for the adoption of surprise as a political concept that can shape the way toward a new era. In our current state of modernity, over-programming, and managerial control requires the precise opposite. Surprise is discouraged, and so are the other worlds, and possible ways of being, knowing, and doing that do not fit the mold of the *World* defined by capitalist modernity. This is what a few scholars have defined as political ontology, a process that enables the possibility of recognizing other ways of knowing, being, and doing in the world that are obscured and denied by a dominant ontology.[35]

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[31] Cayley, D. (2021). *Ivan Illich. An intellectual Journey.* Pennsylvania: Pennsylvania State University Press.

[32] Robert, J. (2022). *La edad de los sistemas en el pensamiento del Illich tardío.* Ciudad de Mexico: Ithaca.

[33] Illich, I. (1994). The Wisdom of Leopold Kohr. Available at: https://centerforneweconomics.org/publications/the-wisdom-of-leopold-kohr/

[34] Cayley, D. (2021). *Ivan Illich. An intellectual Journey.* Pennsylvania: Pennsylvania State University Press, p. 303.

Illich return to the vernacular, to hospitality, and friendship drawing on the radical parable of the Samaritan promises the recognition of othered vernacular domains where challenges to the dominant paradigm of modernity emerge and where radical plurality enables the possibility of a dialogue within and with modernity.[36]

In place of a conclusion: openings

These words were written in the aftermath of the commemoration of the 30th anniversary of the Zapatista uprising. The Zapatista insurrection not only embodies the possibility of surprise and the attitude of the Samaritan that Illich spoke about, but it embodies the act of radical pluralism: the radical possibility of learning how to listen and let oneself be transformed by the other without losing one's essence.[37] The Zapatista struggle can be seen as an insurrection rooted in the possibility of reclaiming the vernacular in the forms of communitarian entanglements that place caring, the common, and tools at the center.[38] Alongside other movements such as the Rojava resistance in Kurdistan and many other alternatives that are shaping and reformulating an alternative to economics instead of alternative economic systems, the sphere of the vernacular has been recentered as a means to transition towards another era.[39] The new internationalism of hope or the 'globalization of rebellion' that the Zapatistas have embodied is consistent with how Illich thought one should act in the age of systems and a generalized situation where the second watershed has become almost universal: the possibility of placing friendship, surprise, hope, and hospitality as the basis of a new era after development.

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[35] Blaser, M. & de la Cadena, M. (2018). *A World of Many Worlds.* Durham: Duke University Press.

[36] Giraldo, O. F. (2022). *Conflictos entre mundos. Negación de la alteridad, diferencia radical, ontología política.* México: Colegio de la frontera sur.

[37] Esteva, G. (2021). Hacia una nueva era. Colección Al Faro Zapatista. Buenos Aires, Argentina: Consejo Latinoamericano de Ciencias Sociales.

[38] Gutierrez Aguilar, R. (2018). 'Producir lo común Entramados comunitarios y

Going back to the three original questions that motivated this paper, it can be argued that not only is Illich's thought still relevant, but that his diagnosis of the ongoing civilizational crisis remains relevant, though still mostly ignored. The relevance of Illich to the ongoing expansion of extractivism lies not only in the importance of his early concepts such as counter-productivity, radical monopoly, and the age of systems to explain how institutions are incapable of solving our global predicaments—best exemplified by the COVID-19 pandemic and the ongoing climate collapse—but also why it is futile to place our hopes and efforts on these systems and these scales.

If tools become too powerful, too big, or too efficient, they begin to degrade nature, concentrate power, interrupt tradition, and increase frustration. Somewhat paradoxical for our age, Illich tells us that limits are the only way we can ex-

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formas de lo político.' In R. Gutierrez Aguilar (Ed.), *Comunidades, tramas comunitarias y producción de lo común. Debates contemporáneos desde América Latina* (pp. 51–72). Colectivo Editorial Pez en el Árbol; Esteva, G. (2020). Defender la autonomía de la democracia. *Utopía y Praxis Latinoamericana*, 25 (91): 253-265; Escobar, A. (2021). Reframing civilization(s): from critique to transitions. Globalizations,0 (0): 1-22.

[39] Dunlap, A. & Tornel, C. (2024). Was postdevelopment too much? Autonomous struggle, academic coloniality & the radical roots of the pluriverse. *Globalizations*, https://doi.org/10.1080/14747731.2024.2349317

perience true freedom. It is within a common roof that we can truly experience the possibility of a *good life*. This is perhaps what we could call a *convivial society,* one where the relationship is based on collectively imposed limits and the ability to rely on the tool. Conviviality sits at the center of most civilizational transition discourses—such as post-development and degrowth—and other philosophies of well-being beyond and alternatives *to* development–such as indigenous notions of Buen Vivir, comunalidad, and Ubuntu.[40] Furthermore, Illich saw how the loss of gender and the rise of economic sex would lead to capitalist exploitation and the formulation of a *homo oeconomicus*. Re-embedding the economic into the social requires a struggle to reclaim that vernacular from the shadow economy, a way of reclaiming that complementarity–not a return to gendered roles, but a rejection of scarcity as the encompassing myth or the organizing principle of society, as is the case with Western modernity.

In the face of an ongoing civilizational crisis, Illich's work offers a lens to understand its origins: the corruption of Christianity into a total managerial form of control in the form of modern institutions. The result is a form of total alienation that has eroded the vernacular domain. The transgression into a generalized second watershed has created a totality of this system. As Gustavo Esteva argues, without exteriority there can be no new forms of imagination. What remains in a totalized system are the empty rituals and those who believe in these rain dances and take the evidence of rain or the lack of it as a need to continue their dance.[41] The possibilities of a civilizational transition towards other possible worlds are thus impaired by the institutions and tools—such as the State, formal/representative democracy, the use of renewable energies, and green, sustainable, and smart technologies—which end up becoming *alternatives of* and not *to* the counter-productivity of capitalist modernity and its institutions.

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[40] See: Escobar, A. (2015). Degrowth, post-development, and transitions: A preliminary conversation. *Sustainability Science,* 10(3): 451–462; and Kothari, A., Saleh, Escobar, A., Demaria, F. & Acosta, A. (2019). *Pluriverse: A post-development dictionary.* New Delhi: Tulika Books.

[41] Esteva, G. (2020). Defender la autonomía de la democracia. *Utopía y Praxis Latinoamericana,* 25, (91): 253-265.

In a conversation with a friend, Illich was asked whether his thought constituted some sort of prophecy, to which he responded, "The act of prophecy lies behind us. The only chance now lies in our taking this action as that of the friend. This is the way in which hope for a new society can spread. And the practice of it is not really through words but through little acts of foolish renunciation."[42] In an era where, following Agamben, *the future has no future*, where systems have overprogrammed reality and managed risk to a frightening extent, and where no *outside* of these systems seems possible,[43] Illich calls for a new asceticism—in the form of *hexis* and *askesis*—to create the possibility of an ontological dialogue, a radical possibility of openness (in the form of surprise), where *anyone can be our neighbor*. This attitude, I would argue, is the only way in which an actual radical plurality becomes embodied. That is, it points towards an attitude necessary for a post-development era, one in which a pluriverse is possible.

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[42] Cayley, D. (2021). *Ivan Illich. An intellectual Journey.* Pennsylvania: Pennsylvania State University Press. p. 424.

[43] Agamben, G. (2015). 'Se la feroce religione del denaro divora il futuro'. La Repubblica. Available at: https://ricerca.repubblica.it/repubblica/archivio/repubblica/2012/02/16/se-la-feroce-religione-del-denaro-divora.html

Beyond the ‘It’: Mutuality, Maternal-Thinking, and the ‘She’ in Illich's thought

by Renee Uribe

Ivan Illich’s critique of the church is founded on the distinction between the institutional church (“it”) and the mystical body of Christ (“She”). The “it” represents the impersonal, institutional, and potentially dehumanizing aspects of the church, while the “She” embodies the living, face-to-face community of Christ, rooted in genuine human connection. The Church embodies communities and forms of life that may exist outside the institutional church while still being part of Christ’s Mystical Body, a concept that can be applied across Christian denominations.[1] Illich challenges the church for its attempts to mass-produce mercy, arguing that true compassion and resistance to evil can only be found within the Church and fostered through mutuality. This concept of mutuality, grounded in Illich’s theology of the Incarnation, emphasizes a relationship founded on a freely chosen act of love. However, Illich acknowledges the complexities and nu-

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[1] “It is important to be clear about the use of the words church or Church (capital C) throughout the text. When I use church (it), I mean the institution, which embraces the bureaucracy, the administration, and the visible apparatus of the Catholic tradition. When I use Church (She), I mean the Mystical Body of Christ, not always visible nor necessarily under the wings of the church. By making such distinction I am not saying that the Catholic church is not within the Mystical Body of Christ, which I call Church, of which Christ is the head (see St. Paul’s letter to the Ephesians, his first and second letter to the Corinthians and his letter to the Colossians). Rather, I use Church to embrace communities and forms-of-life not necessarily under the approval or recognition of the church to avoid narrowing the Mystical Body to one institution. If the analysis of this essay was one concerning the Lutheran church, or the Baptist church or the churches of Christ, I would follow the same method of differentiation between the church ‘it’ and the Church ‘She.’ The distinction, not the way I apply it, between the church ‘it’ and the Church ‘She’ can also be seen in Ivan Illich, *The Powerless Church* (2018).” Neto Leao, “Vernacular Forms-of-living: Thinking After Ivan Illich,” PhD diss. (Universidad Estatal De Campinas, 2022), 33.

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‘She’ in Illich's thought. Conspiratio, Fall 2024, p. 38-52.

ances of such mutuality, as evidenced by his provocative statement about the church: "Let's accept the ambiguity of being sons of a mother who is unworthy, but not one of us."[2] This raises crucial questions: if the "it" is not one of "us," then who constitutes this "us" for Illich? How does this "us" manifest itself in Illich's thought and practice? I propose exploring the concept of "us" through a maternal-thinking lens to offer new insights into Illich's understanding of the church/Church and illuminate the path beyond the institutional "it."

Mystery of Mutuality and Mystery of Evil

Cayley explains that Illich understands mystery not as a puzzle yet to be worked out but "as something that our thought, by its nature, cannot penetrate."[3] In the effort to shed light on Illich's effort to go beyond the "it," this essay attempts to circumscribe the mystery Illich confronted.

The "mystery of mutuality" is vital to define Illich's "us" and is deeply rooted in his theology of the Incarnation. For Illich, the Incarnation exemplifies the mutuality between God and humanity, where God, through Christ, enters into a relationship with creation. This relationship, characterized by love and freedom, is the foundation for genuine human connection.[4] Furthermore, the Incarnation embodies a sense of complementarity, a paradigm that Illich would explore throughout his life, perceiving the coexistence of seemingly opposing forces within a unified whole. Implied in the Incarnation is the arrival of God in the flesh, so that "we are led to discover God in one another."[5] This pursuit of discovering God in others fueled Illich's lifelong advocacy for mutuality, which he defined as a freely chosen act of love and friendship, where individuals establish "personal proportionality" when moved to turn toward one another.[6] Although the nuances of his theological thought are beyond the scope of a short essay, some aspects of it can be recognized.

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[2] Tomasz Goetel, IVAN ILLICH – (English Subtitles) Un Certain Regard – A 1972 Interview. [YouTube Video], 2020.

[3] Ivan Illich, *The North Rivers of the Future:The Testament of Ivan Illich,* as told to David Cayley (Toronto, ON: House of Anansi Press Inc, 2005), 239.

[4] Illich and the "mutuality of love": "There is no other way, in my opinion, to explain the way which St. Thomas Aquinas unfolds the notion of contingency. . . . except as a digestion and penetration of Gospel truths, truths about the Incarnation, the embodiment, the enfleshment, and the mutuality of love." Illich, *Rivers,* 69.

From the beginning of his priesthood, Illich emphasized the it/She distinction which he expressed later in terms of a philosophy of complementarity. Illich's distinction between the "it" and "She," the institutional church and the mystical body of Christ, is like two sides of the same coin. It is Illich's way of simplifying the complex theological construct of the bipartite body of Christ— The Church as "*De domini corpore bipartition*." This concept is rooted in the writings of Fourth Century North African theologian Tyconius.[7] Based primarily on the second letter to the Thessalonians 2:1-12, Tyconius proposed that the Church consists of two intertwined yet distinct realities: one belonging to God and the other to the devil. Illich, drawing on this tradition, saw the church/Church as simultaneously harboring both darkness and beauty, acknowledging the potential for corruption even within the holy. I suggest the parable of the weeds in the gospel of Matthew 13:24-43 as a depiction of this intertwined bipartite body of Christ. The kingdom of God, conceived as a farm, has both wheat and weeds growing side by side. And the farmer is directed to "let them grow together until the harvest." Jesus explains that weeds are "the children of the evil one," whereas wheat is "the children of the Kingdom," with the harvest occurring at "the end of the age." Interpreting the parable as a call to tolerance within the Church or as an example of the bipartite body of Christ—similar to Tyconius' reading of 2 Thessalonians 2:1-13—is uncommon in mainstream theology, but it resonates deeply with me.

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[5] Illich, *Rivers* 176.

[6] Reflecting on the parable of the Samaritan in Luke's account, Cayley suggests, "'Who is my neighbor?' He [Illich] answers, 'He to whom you as a free human being establish your personal proportionality by turning to him in love and inviting him to the mutuality of love which is usually called friendship." David Cayley, *Ivan Illich: An Intellectual Journey* (University Park, PA: The University of Penn. Press), 383.

[7] A highly original and independent layman, Tyconius criticized the core beliefs of his own Donatist group, which led to him to incur its censure and be condemned (380 CE). His major work, *Liber Regularum*, presented seven principles for interpreting the Bible, which were later used by Augustine in *De Doctrian Christiana.* E.A. Livingstone. *The Concise Dictionary of the Christian Church* (Oxford, UK: Oxford University Press, 2000), 590.

Illich's thinking is not duality but the philosophy of complementarity. I understand it in this straightforward way: duality is an "either/or" but the philosophy of complementarity refers to a "both/and." This reflects the inherent tension between the weeds and wheat, the ideal and the reality, the earthly and the divine—a creative tension that has resonated throughout Christian history. Tyconius' theology significantly influenced Augustine, who shaped much of Western theological thought. Even the late Pope Benedict XVI's renunciation was linked to his understanding of the bipartite body of Christ, a concept he began to explore in his early writings. Agamben further connects this theological thread to the writings of Illich, highlighting its enduring relevance.[8]

Illich believed the Incarnation fundamentally transformed human relationships, introducing a new potential for both connection and rejection. This "expanded horizon" for love, exemplified in the parable of the Good Samaritan, brought with it the freedom to choose, but also the potential for betrayal. For Illich, sin was not a transgression of law, but a refusal of this felt call to love. In this way, a *mysterium iniquitatis* ("mystery of evil") is introduced alongside the Incarnation. This paradox fascinated Illich, highlighting the creative tension between the "mystery of mutuality" and the "mystery of evil." He saw the Church as a prime example of this tension, echoing Savonarola's view of it as a "nesting place for evil"[9] and describing this corruption as *corruptio optimi pessima* ("corruption of the best is the worst.")

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[8] Giorgio Agamben, *The Mystery of Evil: Benedict XVI and the End of Days*. Translated by A. Kotsko (Redwood City, CA: Stanford University Press, 2017), 11. Also see Cayley, *Intellectual Journey* , 63-4.

Agamben further emphasizes this point, noting Illich's viewpoint that the church has become a model for the modern state's "completely taking over humanity."[10] Agamben, with maternal imagery, emphasizes Illich's view that the church, "is the modern state in embryo."[11] Illich's framework of complementarity helps explain this tension, recognizing the coexistence of opposing forces within the Church, and highlighting the challenge of pursuing mutuality within a system that seems to necessarily undermine it.

Mystery of Mutuality

To understand the "us" in Illich's framework, we must explore his definition and practice of mutuality. He often described this "mystery of mutuality" as "the mutuality of love, which is called friendship," suggesting that "us" comprises those with whom he shared such bonds. Throughout his life, Illich championed the creation of spaces where individuals could gather, share meals, as well as engage in meaningful conversations around research. These spaces, reminiscent of maternal environments, fostered growth and mutuality, echoing the nurturing, protective, and defiant roles that mothers have historically played amidst social and political challenges. Illich's point of reference for these spaces was the early Christians, who formed communities based not on birthright but on shared beliefs and experiences.[12] He admired their face-to-face relationships and their practice of *conspiratio*, reflecting a collective spirit akin to a mystical body. Examples of Illich's approach to creating conspiratorial spaces can be found in his communal gatherings where cooking and shared meals were central,[13] and in his "living room consultations" at Penn State University, where in-depth discussions unfolded over several days. These instances highlight the maternal aspects of Illich's understanding of mutuality, emphasizing the creation of environments that nurture growth, connection, and resistance to institutional control.

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[9] Illich, *Rivers*, 61.

[10] Agamben, *The Mystery of Evil*, 10-11.

[11] Cayley, *Intellectual Journey*, 380.

Illich's Mothers: Ellen 'Maexie' Illich (nee Regenstreif) and the Church.

Illich's understanding of the Church was deeply influenced by his personal experience. He described two mothers: his biological mother, Ellen 'Maexie' Illich (nee Regenstreif), and the Church. His commitment to religious communities seemed to replace his biological family. While his motivations for becoming a priest remain unclear, his mother's faith likely played a significant role in shaping his spirituality.

Many Christian traditions confuse the church as a "Holy Mother." Many Christian denominations tend to sanctify their visible institutions. Illich's distinction between "it" and "she" squarely challenges this traditional view. Applying maternal-thinking, we can see that just as a mother's limitations are physical, emotional, and social, so also there is a "built-in" limitation to the Church, which reflects the inherent challenges of fostering genuine human connection in a complex world. Illich critiques the institutional church for its attempts to "mass produce mercy," arguing that felt compassion can only be found in intimate and authentic relationships. Hence, "She" is comprised of "us" who engage in genuine mutuality and resist the dehumanizing tendencies of institutionalization.

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[12] Illich, *Rivers*, 33.

[13] Samar Farage, "Remembering 'Illich's Convivium," *Conspiratio* (Fall 2021), 136–45.

"It" is Not "Us": Defining the Boundaries of Mutuality

Does Illich's definition of mutuality have boundaries? The following statement provides clues, "Let's accept the ambiguity of being sons of a mother who is unworthy, but not one of us." It is found in the Jean-Marie Domenach interview from 1972:

> That I have my roots in the church makes it a mother, in a sense. We're stuck with her for life, like you with your wife. And I also know from the Bible that she is a whore. And I wouldn't be a Roman, a Roman Christian in the church that the Lord founded if I didn't have the courage to identify myself as the son of a whore. . . Let's accept the ambiguity of being sons of a mother who is unworthy, but not one of us. It helps clarify our attitude towards the institution.[14]

While writing my doctoral dissertation on "transforming mutuality" using Illich's text and practices, I struggled to understand what Illich had meant by "not one of us." In view that it might be a translation mistake, I decided to write David Cayley to ask him his opinion (August 22, 2022), "At the beginning of the statement, he connects the Church, as Domenech to his wife but then says that the Church is 'NOT a part of us. Could he have said something else?"[15]Cayley immediately replied (August 22, 2022), "I would discount 'not one of us' as nonsense…what he must have meant to say was something like: Let's accept the ambiguity of being sons of a mother who is unworthy but of which we are a part nonetheless."[16]

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[14] Tomasz Goetel, IVAN ILLICH – (English Subtitles) Un Certain Regard – A 1972 Interview. [YouTube Video], 2020, https://www.youtube.com/watch?v=L_ByKXCr9TA

[15] *I use this quote below, using the English subtitles on the video. I have a hard time thinking that Illich stated, "being sons of a mother who is unworthy but not one of us" Could it be a wrong translation? Could he have said something else? My basic French*

Reflecting on Cayley's response two years later, I disagree with his dismissal of Illich's statement as "nonsense" and his substituting "not one of us" with "of which we are a part." After re-watching the 1972 interview, I believe Illich's assertion that the institutional church is "not one of us" holds a deeper and fundamental significance. While acknowledging his rootedness in the Roman Catholic tradition and hence in the church, Illich vigorously distances himself from it. The deep significance of complementarity in Illich is found in the stance he took towards the mutuality between the church and the Church. He denigrates what he cannot disavow, in the cause of what he defends but dares not describe.

The intermingling of it/She can be confusing, but Illich emphasizes that "we" who embrace mutuality stand with the "She" against the "it", resisting the dehumanizing forces and corruption that can arise within institutions. He actively created spaces of resistance "beyond the walls" of established institutions, fostering genuine human connection and challenging the status quo. Just as in maternal-thinking with its

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cannot pick up on this. At the beginning of the statement, he connects the Church, as Domenech with this wife but then to say that the Church is "NOT a part of us." This might be what he said but it is not consistent with many other things he said. It is tough using the word church, as it is used both for the mystical aspect and the institutional aspect. Any thoughts on this quote?

[16] *I haven't been back to the Domenach interview, where my halting French probably wouldn't be much more help than yours anyway, but I would discount 'not one of us' as nonsense - whether as mistranslation or slip of the tongue it doesn't make any sense - not one of whom? Ivan more than once described the Church as mother and whore, so this is reliable, and what he must have meant to say was something like: Let's accept the ambiguity of being sons of a mother who is unworthy but of which we are a part, nonetheless. His great reference on this point, as you probably know, was von Balthasar's essay 'Casta Meretrix,' and he mentions in 'How shall we pass on Christianity?' – reprinted in The Powerless Church – that he 'got into trouble' – I think he says – when he had this essay translated*

focus on nurturing, preserving life, and challenging oppressive structures, there are limitations or boundaries to Illich's "us." These boundaries define the size and composition of the community, determining who is a part of it. Boundaries are essential for healthy and authentic relationships. The "it" (the institutional Church and the age of systems) often oversteps these boundaries, creating an artificial and lifeless environment. True mutuality, on the other hand, involves recognizing and respecting the limits of each individual or group, allowing for a more authentic and fulfilling connection.

Raised in the Stone-Campbell Movement, I have grappled with the tension between the institutional aspects versus the lived experience of faith. My critiques, culminating in a 300-page dissertation, stem from this tension. Yet, I continue to cherish the legacy of faith and love for God passed down through generations linked by the Church. Like Illich, I have found that focusing on the "She" fosters a resilient spirituality that transcends denominational boundaries. This understanding has been further deepened through the lens of maternal-thinking. By recognizing the nurturing, protective, and defiant qualities associated with motherhood, I have gained a greater appreciation for how "She" can provide a safe haven and a source of resistance against the oppressive forces of "it."

Maternal-Thinking

Historically, mothers have often resisted and created spaces to group people to resist oppressive power structures, including those within the church. This resistance, exemplified by movements such as the Argentine *Las Madres de Plaza de Mayo*, underscores the maternal role in challenging state oppression.

Maternal-thinking offers a unique perspective to shed light on Illich's "mystery of mutuality." Sara Ruddick introduced "maternal thinking" to describe three values or intellectual capacities that may arise from the everyday work of caring for children. First, the need to protect children fosters the value of "holding"—keeping them safe while acknowledging the limits of control. Second, nurturing a child's development cultivates an ability to navigate complex, unpredictable change. Finally, preparing children for social and moral life requires openness to their potential, including their differences from the caregiver and community. Together, these capacities create a framework for peace, emphasizing care, understanding, and reconciliation.[17]

Furthermore, in her concept of the maternal gift economy, Vaughan challenges the dominant market exchange paradigm by emphasizing the values of unconditional giving, nurturing, and relationality. She introduces the term *homo donans* to suggest that humans are not primarily defined by wisdom (*homo sapiens*) or economic exchange (*homo economicus*), but by their fundamental nature as gift-givers—a reality distorted by the practices of exchange, money, and markets. Drawing from her own experience as a mother, Vaughan highlights the inherent gift-giving nature of language and caregiving, defining a true gift as one that meets a need. She underscores the importance of mothering—through parenting, care, or nurture—in shaping both language and the gift paradigm at personal and societal levels.[18] This bold shift in thinking, centered on maternal-thinking, aligns with Illich's ideas on mutual limitation and echoes his critique of growth-oriented societies.

Maternal thinking offers a unique lens through which to understand the concept of complementarity, as exemplified by the interconnectedness of a mother and soon-to-be-born child. This biological relationship, where two beings are both separate and united, resonates with the theological concept of the "already but not yet" kingdom of God. This notion of a future reality that is present in seed form is a fundamental building block of Illich's theological and philosophical thinking.

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[17] Sara Ruddick, *Maternal Thinking: Towards a Politics of Peace* (Boston, MA: Beacon Press, 1995).

[18] Genevieve Vaughan, *For a Maternal Gift Economy* (Milan, IT: VandA.ePublishing, 2015).

Illich's Complementarity and the "It" vs. "She" Dynamic

Illich's concept of complementarity, akin to Nicolas of Cusa's "coincidence of opposites," is central to his thought. Just as Newton's third law describes forces existing in equal and opposite pairs, so too does Illich recognize the interconnectedness of seemingly opposing forces. This perspective, as explained by Cayley, rests on three principles: multiple perspectives, acknowledgment of shadow aspects, and striving for balance.[19] These principles illuminate Illich's understanding of the dynamic between and within the church/Church. First, the necessity of multiple perspectives underscores the importance of creating spaces for genuine dialogue and collaboration. Second, acknowledging the "shadow" aspects inherent in individuals and institutions allows for a more honest and nuanced engagement. Finally, the concept of balance is crucial for navigating the inherent conflict between the "it" and the "She."

In our time, Illich's thinking can guide us to understand the "age of systems." Illich's theology offers a deep level of mediation on the "mystery of evil" implicit in the Incarnation. For Illich, "the mystery of evil" hatches from relying on modern institutions to "love" as if they were social machines that produce mercy, instead of seeking others face-to-face for human connection. Illich views many Western institutions as "mercy-producing" institutions: schools and healthcare. In my research, I found his logic of the "ages of systems" linked with the nondenominational church, in the category I coined "religious branded organization." In these Christian groups, as in the "it" of Illich, the followers are invited to trust in their institution rather than seeking genuine human connection. My own experience with such an organization led me to conclude, using maternal-thinking, that it was a "faceless, bodiless, wombless, and motherless system."[20]

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[19] David Cayley, "Part Moon, Part Travelling Salesman: Complementary in the Thought of Ivan Illich," *[Online] Davidcayley.com* (NOVEMBER 7, 2014).

Illich's advocacy for mutual dependence and mutual limitation aligns with his view of mutuality and creating spaces for it. He uses shocking maternal imagery, "wombless world" and "plastic womb," to describe the artificial and lifeless nature of the institutional church and the systems it has created. These words reflect the artificial, bodiless world of the "it," which characterizes the "age of systems" we currently inhabit.

Us Against It: The Distinction of Mutuality

At the core of Illich's provocative distinction between "us" and "it," encapsulated in his assertion that the Church is "not one of us," is the insight that while institutional authorities promise safety and order, they can only do so by alienating individuals from the authentic relational dynamics that mutuality seeks to cultivate.

Illich's "not one of us" serves also as a place of resistance to evil. It serves as a rallying call for those disillusioned by institutional failures, inviting a reclamation of faith and community that transcends bureaucratic limitations. For Illich, this does not necessitate abandoning the institutional church altogether but rather calls for a transformative engagement that prioritizes mutual relationships over institutional loyalty. By fostering a collective identity grounded in love and respect for one another, "we" emerge as a community to challenge the corrosive effects of "it." This dynamic encourages a reimagining of the

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[20] Renee Rheinbolt-Uribe, "Transforming Mutuality in a Theology of Mission," PhD Diss. (Stellenbosch University, 2023), 214.

Church, not as an institution defined by its power but as a living embodiment of Christ's message of mutuality, capable of confronting the evils that arise from institutionalization.

Illich's Legacy: Spaces Created for Mutuality

Illich's concept of mutuality is inherently radical—it challenges not only the institutional Church but also the broader social order, which I describe as "a system broken beyond repair." By prioritizing face-to-face relationships over institutional allegiance, mutuality serves as a quiet yet profound act of resistance. In my own experiences with Gustavo Esteva at Uni-Tierra, I saw firsthand how mutuality becomes a form of liberation, where genuine community and learning can emerge outside the constraints of both church and State.[21] Firsthand experiences at Uni-Tierra and e-Bosch, a community gathering in Stellenbosch, South Africa,[22] further illustrate the transformative power of such spaces in fostering connection, understanding, and learning across diverse backgrounds. In these places and others, I have experienced the emphasis on mutuality, shared meals, and deep conversations that echo Illich's call for authentic relationships rooted in face-to-face connection. I discovered the ineradicable part that individuals play in fostering mutuality; each person's active participation is vital for sustaining these relationships. However, this journey is not without challenges, as institutional resistance and societal pressures often threaten to undermine these genuine connections. To navigate these obstacles, it is essential to remain committed to Illich's vision, encouraging a personal and collective responsibility to create and nurture spaces of mutuality that resonate with love and understanding.

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[21] Insights from visiting and participating in an interview with Gustavo Esteva on November 14, 2019, Universidad de la Tierra, Oaxaca, México.

[22] The name of the group is e'Bosch, with "e" standing for "erfenis" in Afrikaans. In English, it would be "h'Bosch" meaning "heritage Stellenbosch." h'Bosch is a place where all the communities in and around Stellenbosch come together to share their heritage and perspectives, fostering mutual understanding, and developing common ground.

Concluding Thoughts

In exploring Illich's intricate tapestry of thought, we have ventured beyond the confines of the institutional church, outlining his distinction between it/She. We have delved into the heart of mutuality and its profound implications for human connection and resistance. We reviewed the basic theological framework on which his thinking is rooted: Incarnation, Bipartite Christ, and *conspiratio*.

Through the lens of maternal thinking, we have illuminated the nuanced boundaries of Illich's "us," recognizing the transformative power of genuine relationships and the enduring legacy of spaces created for authentic encounters. As we navigate the complexities of our modern age, may we draw inspiration from Illich's vision, embracing the "She" and resisting the "it," with the dynamics of complementarity. We draw from the well of resilient spirituality that transcends institutional limitations and empowers us to create a world where mutuality flourishes, and the divine spark within each of us is ignited.

Illich initiative reflects a life lived in faith beyond institutional boundaries. And embodying Illich's understanding of genuine community as one that prioritizes relationships over institutional affiliation. By embracing a vision that allows for the flourishing of mutuality and human connection, Illich invites us to continue exploring his radical insights in our personal and communal contexts, where "we" united by "her" can thrive outside of "it."

This poetic summary encapsulates the essence of Illich's going beyond the "it" as an active, ongoing process of creating spaces for genuine human connection amidst the challenges and brokenness of the dominant social order. The imagery of walking together through a broken system conveys a sense of both resilience and hope, emphasizing the transformative power of mutual relationships and the importance of collective action.

Mutuality
Is
Creating Spaces
While
Walking Together
Through
A System Broken Beyond Repair.[23]

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[23] Rheinbolt-Uribe, *Transforming Mutuality*, 250.

Thematic Articles

On Nature

Ulysses Bôscolo contributed his artistic works that appear on the cover and intersperse the thematic articles of this issue. They include hand-printed woodcuts and photographs taken between 2019 and 2024, in the cities of São Paulo and in S. Miguel do Gostoso, both in Brazil.

The pandemic was a fundamental milestone. For many, photography is a weapon of war to denounce the landscape being undone. All the images here are saturated in the times at which the bodies were at play. Sometimes the photograph was taken abruptly. At other times, the city unfolded itself in the words and silences of our frank conversation with it. The written names were changed but the context in which they were deciphered was untouched. Places hold a true "Hybrid War" in the lights and in the shadows. The city is a part of this fragmented heart in which the music of the image, mainly through engravings and photographs, invites us to touch and speak or to welcome history in a single click. The photographs in this publication seek to indicate this mystery in disparate situations of joy and often under the shocking loss of hope. However, they always try to reveal the overcoming in human nature that at every moment calls light to inhabit what is important in the sacred/secret space of memory.

Ulysses Bôscolo, 2024

The shell of the snail*

by Giorgio Agamben

Whatever the profound reasons for the decline of the West, whose crisis we are experiencing is in every sense decisive, it is possible to summarize its extreme outcome by taking up an incisive image from Ivan Illich which we could call the “snail theorem”.

“If the snail”, states the theorem, “after having added a certain number of coils to its shell, instead of stopping, continued its growth, just one further coil would increase the weight of its house by 16 times and inexorably crush the snail.”

This is what is happening to the species that once defined itself as *homo sapiens* as regards technological development and, in general, the hypertrophy of the legal, scientific, and industrial devices that characterize human society.

These have always been indispensable to the life of that special mammal that is man, whose premature birth implies a prolongation of the infantile condition, in which the young are unable to provide for their survival. But, as is often the case, there is a mortal danger that lurks in precisely what ensures their salvation.

Scientists, like the brilliant Dutch anatomist Lodewjik Bolk, who have reflected on the singular condition of the human species, have drawn conclusions that are, to say the least, pessimistic about the future of civilization. Over time, the growing development of technologies and social structures produces a real inhibition of vitality, which is a prelude to the possible disappearance of the species. In fact, access to the

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* Originally published (22 May 2024) online: https://www.quodlibet.it/giorgio-agamben-il-guscio-della-lumaca. Published here with the author’s permission.

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Agamben, G. The shell of the snail.
Conspiratio, Fall 2024, p. 64-65

adult stage is increasingly deferred, the growth of the organism is increasingly slowed down, and lifespan—and therefore old age—is prolonged.

"The progress of this inhibition of the vital process," writes Bolk, "cannot exceed a certain limit without compromising the vitality, the strength of resistance to harmful influences from the outside, in short, the existence of man itself. The more humanity advances on the path of humanization, the closer it comes to that fatal point where progress will mean destruction. And it is certainly not in the nature of man to stop when faced with this."

It is this extreme situation that we are living through today. The limitless multiplication of technological devices, the increasing subjugation to legal constraints and authorizations of every kind, and the complete subjection to the laws of the market make individuals increasingly dependent on factors that are entirely beyond their control.

Gunther Anders defined the new relationship that modernity has produced between man and his instruments with the expression: "Promethean gap" and spoke of a "shame" in the face of the humiliating superiority of things produced by technology, of which we can no longer consider ourselves masters in any way. Perhaps today, this difference in level has reached the point of maximum tension, and man has become completely incapable of assuming control over the sphere of the products he created.

Added to the inhibition of vitality described by Bolk is the abdication of the very intelligence that could somehow curb its negative consequences. The abandonment of that last connection with nature, which the philosophical tradition called *lumen naturae*, produces an artificial stupidity that renders technological hypertrophy even more uncontrollable.

What will happen to the snail crushed by its own shell? How will it survive the rubble of its house? These are the questions we must not stop asking ourselves.

The Image of Man in Artificial Intelligence: A Conversation with Joseph Weizenbaum*

by Bernhard Pörksen

Joseph Weizenbaum: A Biographical Sketch

Born in 1923 to Jewish parents, Joseph Weizenbaum fled Nazi Germany for the USA in 1936 and later studied mathematics. As an assistant at Wayne University in Detroit, he started working with computers, wrote the Slip programming language, designed the computer system for the Bank of America (in 1955), and taught as a guest lecturer at Stanford University. In 1963, Weizenbaum became a professor of computer science at the Massachusetts Institute of Technology (MIT), where he taught until his retirement in 1988. He achieved fame for the ELIZA program, which simulates a psychotherapist that (at least superficially) tries to understand its client on a psychological level. The program's answers and questions resemble a psychotherapist from the Carl Rogers School.

Weizenbaum became active in the peace movement during the Vietnam War and continued to be involved henceforth. He co-founded the Computer Professionals for Social Responsibility and the Forum of Computer Scientists for Peace and Social Responsibility in the Federal Republic of Germany. In 1976, his seminal work, *The Power of Computers and the Powerlessness of Reason*, was published for the first time. The book concerns the effects of computers on the world of human experience, at that time a new, explosive, and

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* The original interview was first published in German in 2000 in Communicatio Socialis, 1, 4–17, and in the same year in the following volume: Flessner, B. (Ed.), Nach dem Menschen. Der Mythos einer zweiten Schöpfung und das Entstehen einer posthumanen Kultur. Rombach. pp. 265–280. English version published October 23, 2023: https://ojs.weizenbaum-institut.de/index.php/wjds/article/view/99/88#footnote-001

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Pörksen, B. The Image of Man in Artificial Intelligence:
A Conversation with Joseph Weizenbaum.
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largely uncharted field. In two other books ("Kurs auf den Eisberg" and "Wer findet die Computermythen?"), he draws attention to the close connection between the military and computer science research and vehemently criticizes proponents of artificial intelligence (AI).

A Personal Recollection: Joseph Weizenbaum as Science Critic, Mystic, and Human Being

When I think back to Joseph Weizenbaum on the occasion of this interview's publication, I recall how stimulating and gratifying it was to converse with him. Three encounters have remained particularly entrenched in my memory. For context, Weizenbaum was a frequent guest at my parents' house in Freiburg during my youth. There, he poked fun at the scientific establishment with verve over dinner, once delivering a critique of the power of paradigms informed by the sociology of knowledge developed by Ludwik Fleck and Thomas S. Kuhn. [1]

On one especially memorable occasion, he invented an epistemological parable off the cuff, employing his idiosyncratic mixture of friendly, mischievous shrewdness, and narrative joy. He called this parable the *Curriculum Vitae of a Counterexample*. Listening to him speak, I had the realization that this scientist thinks radically differently. Despite just a short time earlier being commonly recognized as gifted and innovative, he was now offering a counterexample to what the mainstream and so-called normal science believes and accepts as truth. For Weizenbaum, several questions could be asked of this counterexample. First, who is this person that has such audacity? Even this simple question can destroy the counterexample's credibility. After all, who wants to believe a nobody and give them the time of day? Second, potentially no less damning, *from where* or from which school of thought does this person come from who believes themselves capable of shaking up an established and recognized paradigm? Third, *where* has the person published? In which journals and with whom? Are these really recognized authors and renowned outlets? That is, do we really have to take the person seriously? What Weizenbaum was really trying to articulate was the reality that the processes of scientific knowledge generation are never merely rational. Instead, there is always also a social component. The issue here is the influence of individuals and the influence of schools and groups on power and an elusive, diffuse assessment of reputation that ultimately aims at disciplining, demanding conformity, and sometimes excluding. I became aware that Joseph Weizenbaum was coming to terms with his own experiences, but he was doing so in his own way: in the mode of a narrating scholar, implicitly and with tact, without doggedness, and with a large serving of humor.

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[1] See Fleck, L., & Ludwik, T. S. (1993). *Entstehung und Entwicklung einer wissenschaftlichen Tatsache. Einführung in die Lehre vom Denkstil und Denkkollektiv. Mit einer Einleitung herausgegeben von Lothar Schäfer und Thomas Schnelle* (2nd edition). Suhrkamp. For further detail, see Kuhn, T. S. (1991). *Die Struktur wissenschaftlicher Revolutionen* (11th edition). Suhrkamp.

The second encounter that I continue to remember vividly took place during my studies and had a wonderfully absurd quality to it. The professor of philosophy and aesthetics Prince Rudolf zur Lippe invited Weizenbaum to attend a multi-day seminar at the Hude Abbey, where zur Lippe lived in picturesque surroundings. Because this invitation came at rather short notice and the panels were scheduled for the middle of the week, most of the invited guests could not attend. This allowed a university friend and me to get on the invitation list and talk to Weizenbaum for hours in the abbey's winter garden while peacocks and swans paraded up and down in front of the windows, sometimes looking at us with curiosity. For us, this was exhilarating: What an opportunity, we thought, what a chance! Weizenbaum was initially somewhat disgruntled when he saw the small group of participants that had come together. After the first round of discussions, he told zur Lippe that next time they could "meet in a telephone booth," where there would certainly be room for everyone. In the evening, we ate roasted rabbit from a nearby restaurant served on zur Lippe's stately tableware. Several participants quickly discovered shotgun pellets in their dinner, discreetly depositing them on the edge of their plates. Nonetheless, the atmosphere was relaxed, and Weizenbaum gave a kind of after-dinner speech during which he suddenly began to talk about the importance of mystical thinking for his work. Despite the imposing aura of this former abbey, he did this in an indirect, coded way, like a representative of apophatic or negative theology. He circled the subject using riddles but retained the certainty "that there is something unspeakable, a living truth that cannot be put into words," as he puts it in the conversation published here. That evening he emphasized, contrary to the forms of thought he had come to know at MIT and in the natural sciences, with an impressive cautiousness and without a merely fashionable hostility to reason, the fundamental inexplicability of the world. In that moment, it became clear to me that he was acting not primarily as a computer scientist but as a mystic wanting to give the sense of wonder a place and a reason to exist again in a supposedly completely fathomable world.

The third and final encounter I want to mention took place in Bremen. The cultural critic, philosopher of technology responsible for *Tools for Conviviality*, and one-time papal monsignor Ivan Illich ran an open house at his residence in the city with his partner, the historian of the body Barbara Duden. Following his lectures on Friday afternoons at the University of Bremen, he regularly invited students and various friends from all over the world to continue discussions with him into the night. Here, too, Joseph Weizenbaum and I met on several occasions. In 1998, Illich received the Culture and Peace Prize of Villa Ichon in Bremen. Beset by illness and pain, his acceptance speech to the citizens of the city described in a most profound and deeply melancholic way the nature of the search of an intellectual and citizen of the world for something like home.[2] For him, it was an unexpected stroke of luck that he had found at last a "corner of home"[3] in Bremen after countless stops along the road, including long-term stays in Latin America and the USA alongside guest professorships at many universities around the world. In that moment, he spoke as a poet and mystic, another apophatic theologian. Joseph Weizenbaum and I stood together for a moment after that speech, and I never again saw him so moved. His only comment: "That was wonderful." I realized that he, too, was a displaced person, a seeker, and, most of all, a reconciler who had returned to Germany and lived in Berlin, the city of his birth, until his death. The following conversation took place at some point after that encounter in 1998. I hope that it will demonstrate to readers the characteristic humanity of Joseph Weizenbaum, science critic and mystic.

The Human Image of Artificial Intelligence: A Conversation with Joseph Weizenbaum

The Model of the Machine and the Model of the Human Being

Pörksen: Anyone dealing with artificial intelligence repeatedly encounters two fundamentally different perspectives. Some AI proponents view humans as models of machines. Machine intelligence, they imagine, should imitate human intelligence. However, another group of researchers believes that humans have forfeited this role as the ideal imitation model, with machines of the future now anticipated to be superior to humans, largely perfect entities endowed with fantastic power of thought. Can you identify which of these two research strands was there at the beginning?

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[2] Illich had fled the Nazis, too – his mother had been Jewish before converting. He went to Florence and Rome, became a priest in New York, and, at age 30, vice-rector of the Catholic University of Puerto Rico.

[3] For an analysis of this idiom, see Hartch, T. (2015). *The prophet of Cuernavaca. Ivan Illich and the crisis of the West.* Oxford University Press.

Weizenbaum: These two strands have been running side by side in some form or other since the beginnings of AI at the famous Dartmouth Conference in 1956. You can recognize that since the beginning, it's not only that man has been regarded as the model and ideal but that the machine has been understood as the pattern for the model to be built. As such, on the one hand, there's Marvin Minsky, who said, "The brain is merely a meat machine." In English, there are two words for the German Fleisch: meat and flesh. Flesh is alive; it's living flesh. With meat, though, you can do whatever you want. You can eat it, you can fry it, you can burn it. It's dead. In this sentence, however, man remains the role model. It is he whose intelligence one wants to reproduce. What resonates here, however, is the idea that this should present no difficulty because his central organ – the brain, which determines and characterizes him – is just a meat machine and nothing more.

On the other hand, there is the dogma, also articulated by Marvin Minsky, that God was not a very capable engineer and that man is an aberration with many superfluous weaknesses. He needs sleep and he learns only laboriously before forgetting again. Furthermore, he is mortal. However, we can create something much better and more perfect, according to the view that became widespread in the AI community very early on. We are building the ideal model, a creation that remains oriented toward humans in some respects but that nevertheless comes closer to perfection.

Pörksen: If you take this idea a step further, it actually means that, from this perspective, humans will become an evolutionary link between apes and a machine being that trumps them. Luc Stells, AI professor at the Free University of Brussels, suggests calling this being of the future “Homo cyber sapiens” or, alternatively, “Robot hominidus intelligens.”

Weizenbaum: Hans Moravec, director of the Mobile Robot Laboratory at Carnegie Mellon University, made a similar proposal in his book Mind Children. He believes that human consciousness can be downloaded onto a robot and that it can and should be copied in order to detach it from its necessarily mortal body, which he regards as a mere vehicle of the mind. The essence of man, he thinks, is information. He despises the body.

Pörksen: Other authors who are close to Moravec in their thinking call the human body just as unkindly “a piece of meat,” “mush,” or “brawn.”

Weizenbaum: That’s just the way people talk in this milieu. In any case, from this perspective, the robots of the future represent a correction and improvement on nature. Moravec claims that such machines could “advance our civilizational evolution.” What he wants is conscious and controlling intervention in the process of evolution, which he considers flawed. By the way, his ideas are not considered science fiction or mere trivia in the United States. They circulate at the country’s top universities – after all, his book has been published by Harvard University Press.

Promethean Shame and Promethean Pride

Pörksen: In this veneration of the machine as a new crown of creation, one can assume that a basic feeling is expressed. The philosopher Günther Anders once called this feeling "Promethean shame," referring to a feeling of inferiority, something like helplessness or even shame in the face of the enormous quality of self-designed machines. Do you share that diagnosis?

Weizenbaum: There is certainly this general psychological phenomenon that when confronted with a particularly perfect performance, people feel inferior and ashamed of their own weaknesses. In this sense, Günther Anders is right.

Pörksen: Marvin Minsky once said that the thinking power of silicon brains is so fantastic that we – meaning humans – could be happy if the robots of the future were to keep us as pets.

Weizenbaum: But it's not just a matter of shame; there is an observable dialectic of feelings that almost every programmer is familiar with. A certain pride remains even if, for some reason, you think the computer is better and smarter. After all, you were the one who wrote that particular program. In this way, a fundamental paradox arises. You're ashamed of your own weakness and yet, at the same time, proud that you were able to write and create such a superior program.

Pörksen: Moravec also speaks of the new robots – and this connects to this idea of a certain kind of pride – as his "spiritual children."

Weizenbaum: Something else is striking here, namely, that it is a man speaking in this way. Is that a coincidence?

I don't think so. After all, the field of AI is dominated by males. It seems to me that, as well as the delusion of playing God, the envy of women and their ability to bear children is also a driving motive. What is expressed here, I would call *uterine envy*.

Pörksen: You mean a complementary phenomenon to the "penis envy" described by Sigmund Freud?

Weizenbaum: Exactly. You can now pretend that you can also produce children, children whose diffusion makes better and more intelligent than any human being.

Pörksen: But such claims are completely speculative. Furthermore, Minsky's announcement that we could be happy if the machines of the future were to "keep us as pets" seems completely exaggerated in view of the robots that have been produced to date. Couldn't the relative lack of success of AI research represent the very source of a new self-awareness, with humans able to see what the machine can't do?

Weizenbaum: Of course, looking at the unfulfilled prophecies of AI, you might say, "Aren't we wonderful? Aren't we great?" But that's nonsense. One should not measure human dignity by what a machine can or cannot do or by how well a computer plays chess. The fatal flaw in this form of thinking – which is still intended to be humanistic – is that the machine becomes the measure of the human being. The ability and inability of a robot is not a basis for determining human self-awareness.

The Secret Anthropology of the Technological World

Pörksen: For me, the question persists regarding whether we should take seriously the various forecasts from the fable realm of AI. Although much of it seems simply absurd, some of it is also funny, amusing, and stimulating. You're confronted with crazy speculations, outrageous ideas, and astonishing thoughts. Again, do you have to take the ideas of a Minsky or Moravec seriously?

Weizenbaum: That's actually two questions. The first concerns whether we should expect humans to be able to actually produce such superior machines. Should we be afraid that such robots will actually exist one day and that we will subsequently become their pets? My response is that we do not have to, and I would add that there is little point debating technical feasibility with these people. That is a losing game that only spurs new and perhaps equally undesirable developments. The second question concerns whether we should take seriously the ideas being disseminated here. To this, I say, yes, absolutely! And that is because these authors, among others, are propagating an extremely dangerous image of man at the threshold of the millennium.

Pörksen: What does this image of man look like?

Weizenbaum: It is based on the idea that man is a machine that can – in principle and in the near future – be understood and decoded to correct it and improve it. The central dogma of this view of man is the idea that every aspect of life is computable, meaning it can be broken down into calculable and formalizable processes.

Pörksen: If I understand correctly, you are primarily concerned not with the question of technical feasibility but with a kind of wordless ideology that comes to life with technical utopia. Marshall McLuhan must have meant something very similar when he spoke of the symbolic effect of technology as “the symbolic fall out of technology.” For McLuhan, technology gives rise to an environment and a world of symbols. In this way, it changes our human self-understanding.

Weizenbaum: Should it really be possible to produce such intelligent machines, this will only happen in the distant future and after many more generations. However, the image of man is changing today and with great success. Minsky or Moravec didn’t fall out of the sky. They formulated their theses in a culture and at a time when people absolutely believe in the natural sciences and modern technology.

Pörksen: Let me ask you again: What are the dangers of an image of man that is based on analogies from the world of machines?

Weizenbaum: We can learn from the history of this century, perhaps the most brutal century, what a decisive role the image of man played in the crimes of the past, remembering that the most atrocious crimes were made possible because the perpetrators denied the humanity of the victims. In the Nazi era, Jews were portrayed as vermin, a metaphor that legitimized mass murder. Today, supported by the authority of the natural sciences, the idea that man is merely an information-processing machine that can be replaced by a robot is gaining substance and power. This perspective is consistent with Moravec’s discourse about a “post-biological society” ruled by robots.

On the Consequences of a Metaphor

Pörksen: You mean that animal and machine metaphors are similar?

Weizenbaum: Exactly, and in one decisive respect. These metaphors destroy reverence for man, rendering his possible end seemingly bearable. Just as we do not respect vermin, we no longer have to respect meat machines. Such metaphors are a starting point for people committing every imaginable cruelty. This has been confirmed in a terrible way in our century.

Pörksen: You reacted particularly angrily to Hans Moravec's book *Mind Children*, saying that Moravec was ultimately aiming at a "final solution to the question of humanity." Why this reference to the crimes of the National Socialists? I don't really understand the purpose of drawing that analogy.

Weizenbaum: That may be. But we are all the result of our history, a history that begins before we are born. What shapes us are the experiences we have. What influences us is the social situation into which we are born. As such, it is unsurprising that I of all people – perhaps I should add, in quotation marks, "a German Jew" – should be drawn to this analogy. Someone else would probably notice something different.

Pörksen: Nonetheless, the question arises: What is the common ground between National Socialist racial mania and the fantasies of an AI professor?

Weizenbaum: Of course, Hans Moravec does not stand in front of the mirror every morning and practice the Hitler salute. That is not the point. What I'm getting at is the immense power of an inhumane image of man, an image that can spread like a virus in a society. I believe that the essential common ground between National Socialism and the ideas of Hans Moravec lies in the degradation of the human and the fantasy of a perfect new man that must be created at all costs. At the end of this perfection, however, man is no longer there. He disappears in Moravec's post-biological society. I am deeply convinced that a humane image of man must be defended today against the dominance of machine metaphors.

Pörksen: But nobody is helplessly at the mercy of an image of man determined by the machine metaphor. After all, people feel very differently, and they act and receive as individuals.

Weizenbaum: I see it differently. The vulnerability of the individual is considerable, as easily evidenced by images of complete surrender known from the Nazi era. Just remember the shouting and cheering and the ecstatic "Sieg Heil" cries of the Germans. People have indeed – especially in this century – enthusiastically and repeatedly surrendered until it was too late, leaving them standing horrified in front of mass graves.

The Credo of Artificial Intelligence

Pörksen: But metaphors from the world of the machine are omnipresent and have always existed. They even come from the age of steam engines and cogs and screws. We talk about the heart as a pump and the body operating like clockwork. We say of people that they are no longer tightly wound or that they have a loose screw. The century of electricity introduced notions of being low on energy or blowing a fuse.

Weizenbaum: In fact, the mechanistic view of the world and of humanity that has given us such sayings is about three hundred years old. In this respect, I would be very cautious about claiming that such metaphors have always existed. Just a few centuries ago, Dante's image of hell and the idea of a paradise that you get to – thanks to your own efforts or the goodness of God – were a reality for people. Nonetheless, I do agree that metaphors are ubiquitous. Any knowledge and any attempt to understand something is, I would argue, ultimately metaphorical in nature. Everything we know, we know in the form of analogies, comparisons, and metaphors. When we think we understand something, we always use the analogical mode. We construct similarities to grasp something foreign or unknown within the framework of something familiar and known.

Pörksen: Couldn't we then understand Marvin Minsky's metaphorical talk of the meat machine similarly undramatically as an attempt to understand the brain?

Weizenbaum: Of course, but if I say that the brain is nothing more than a meat machine, something changes, and that is crucial. You think that it is a complete, comprehensive, and completely sufficient description. My criticism is not at all about the particular analogy or the single metaphor used at any moment to describe the brain or the human being. In fact, this is quite an ordinary process, demonstrable in the history of science, at least since Newton. However, I protest against the assertion that the brain is nothing more than a meat machine, that man is nothing more than an information-processing system.

Pörksen: You protest against reductionism?

Weizenbaum: I am affronted and disgusted by the credo of

AI research that every aspect of human life is calculable and able to be decoded. Of course, humans process information, and of course, these metaphors have enormous value as reductionist models for scientific work and knowledge. They are simply necessary, and they are useful for understanding certain aspects of human life. However, they are abstractions that never capture the whole and the entirety.

Pörksen: What other language or form of description do you have in mind?

Weizenbaum: If I actually had the authority to make such suggestions, I would be very tempted to delete textual formulations from every scientific text of the kind “nothing other than.” What matters is that phenomena and objects, feelings and actions are always multiform and characterizable in very different ways. Their meaning only becomes apparent in context. To give a simple example, consider what it means to feel a hand on one’s shoulder. An answer is only possible if I tell a story. Let’s assume that this story is about a young man. He has had a fight with his girlfriend and now sits sadly and absentmindedly in the library, attempting to work. Suddenly, he feels a hand on his shoulder. Alternatively, let’s assume that this young man is a criminal. He is wanted by the police and, sitting in the waiting room of a train station, he suddenly feels a hand on his shoulder. What do I mean by this? That nothing is ever described forever and for all time. Every description invokes a certain context.

From Golem to Robot

Pörksen: After our little dispute about necessary and dangerous metaphors and idioms, I would like to try to defend Marvin Minsky and Hans Moravec in a different way. After all, it is easy to recognize that the dream of an artificial human being is also rather old. According to my thesis, Moravec and Minsky simply use modern means to fulfill the aims of Rabbi Löw of Prague, who – if one believes the legend – created a golem. They follow the fantasies of Paracelsus, who strove to create the Homunculus. They stand in the tradition of automaton mania, which can be traced to the Age of Enlightenment.

Weizenbaum: Your question implicitly contains the reductionist formula "nothing other than." Ultimately, you are saying that the dreams of Moravec and Minsky are nothing other than the dream that has been dreamed throughout the entire history of mankind. However, that the Pygmalion idea is so old and can possibly be traced back to the beginnings of mankind is not proof of the harmlessness of Moravec and Minsky. Instead, it simply proves the enormous power of that dream. What it shows is that ideas – even false ideas – have tremendous influence. However, differing from the past, the present belief in modern natural sciences will, it is thought, soon allow us to really understand human beings, with high-performance computers apparently the right tools to finally make a reality the Pygmalion myth that people today advocate for with particular euphoria and arrogance.

Pörksen: Are the protagonists of AI really so arrogant and euphoric? Increasingly, the clearly less reductionist school of thought of connectionism is gaining ground. That school views intelligence as an emergent phenomenon: You try to build neuronal networks capable of learning, enabling intelligence to emerge. From this perspective, the brain is a gigantic neuronal network that works on the basis of numerous connections. Thus, inspired by the early days of cybernetics and trained on self-organization models, the possible intelligence of a machine acquires something that is also mysterious and indissolubly complex.

Weizenbaum: I do not believe in a new modesty of the connectionists. Marvin Minsky has also changed his mind and recognized that some approaches from the early days of AI were simply wrong, even if it was possible to achieve spectacular results with them. It had to be admitted that context plays a central role when it comes to understanding language, it had to be recognized that the human body is crucial for our kind of intelligence, and it eventually became apparent that there was little point in producing smaller or larger programs designed to allow the machine to do something seemingly intelligent. But this admission of error did not lead to a different attitude or even to a new humility. On the contrary, the admission of mistakes is sold as huge progress. Meanwhile, the secret hope of one day understanding the human being and building a neuronal network that corresponds to the brain – in order to decode it in a second step – has remained.

Pörksen: In your criticism of AI, it is noticeable that you actually consider life and the human being to be something fundamentally mysterious, and you wish that this mysteriousness of our existence would be recognized.

Weizenbaum: The world is full of mysteries, and the credo of the AI scene that everything is calculable denies the mystery of the living. It creates the illusion of complete transparency and suggests that all aspects of our existence can be unraveled. From this perspective, belief in miracles and mystery appears to be merely a special form of stupidity. I am deeply hurt by this assertion of total predictability.

Mystery and Secrets

Pörksen: Near the end of your book *The Power of Computers and the Powerlessness of Reason*, there is a scene that deals with this encounter with the miraculous and the mysterious: “When my children were still small, I sometimes stood together with my wife bent over the bed in which they slept. We talked to each other without speaking; it was the repetition of a scene as old as humanity itself. It is already as Ionesco once confided in his diary: One can express many things with words, but not the living truth.”

Weizenbaum: My view is indeed that there is something unspeakable, a living truth that cannot be put into words.

Pörksen: A mystic would speak of God in the same sense.

Weizenbaum: I would like to tell a little story. There was once an Episcopalian priest working at MIT. Curiously enough, his name was Scott Paradise. One day, years after we met and became friends, I had a little party. Scott Paradise was among the guests. My daughter Naomi was talking to him, and then she came up to me quite astonished. “Your father, Scott Paradise had said to her, is a particularly religious person. He is a mystic.”

Pörksen: Does the sharpness with which you argue against AI research and the computerization of everyday life, therefore, have a religious basis?

Weizenbaum: Well, it’s not my intention to defend a belief system of Judeo-Christian origin or an organized religion. I don’t think there’s an old man somewhere up in heaven, wrapped in bedclothes, watching what’s going on in the world, surrounded by blonde women with wings flying around him. But I have experienced miracles in my life. There is the experience of sorrow and shock, there is the sudden joy in the morning, and there is the experience of love between people. Well, a miracle is a miracle. You cannot describe it. You would have to be an artist to approach it.

Pörksen: God is not a person for you. What is he, then?

Weizenbaum: My answer is very simple: God is love. I translate his omnipotence and his grace and the other qualities we ascribe to him using the word *love*. With such an understanding, the idea of divine omnipresence also suddenly makes sense. This means to me that God was also in Auschwitz because there were also people there who tried to help out of love, even if that involved simply putting a hand on the shoulder of another to comfort them.

Pörksen: Are there any experiences – autobiographical experiences – that you would like to talk about?

Weizenbaum: When Jewish children had to leave high school in Berlin in the 1930s, I – I was twelve at the time – was sent to a Jewish boys' school. There, I heard Yiddish and met Eastern European Jews for the first time. They lived in the *Scheunenviertel*, and they were terribly poor. At that time, I really fell in love with a Jewish boy. He was literally dressed in rags and tatters, and my mother and I tried to help him. I would bring him a few things every now and then. The atmosphere of this encounter left a deep impression on me, and it can best be described using the word love.

Pörksen: The masterminds of the post-biological age would probably laugh at such respect for the unspeakable, for the mystery of love. For example, Max Moore, a Californian author and mastermind of the robot era, has described religion as "a force opposed to our posthuman society."

Weizenbaum: One certainly makes a fool of oneself in certain circles. One disseminates opium for the people or just nonsense. Numerous modern people are convinced that the natural sciences contrast with religious ideas in offering a solid foundation for knowledge. I am of a quite different opinion there. For me, natural science is merely the predominant world religion today, with novices (students), churches and cathedrals (universities), and priests and heretics. Even the cardinals (the Nobel Prize winners) and the very specific rituals to prove the extent of one's devotion and loyalty are not absent, and even the so-called laymen unreservedly believe, regardless of their everyday experience. For example, most people are convinced that the Earth revolves around the sun and not vice versa. But they cannot prove this assumption. They accept it, even though it contradicts their everyday experience, in which they see a motionless earth and a moving sun. Nonetheless, they trust natural science blindly and without limits. It is this quasi-religious fervor that supports the belief that the help of AI and genetics will enable natural science to one day make it possible to create an artificial, better human being. And with each new triumph of technology, this belief grows.

The Unavoidable Individuality of the Living

Pörksen: It is these triumphs of technology and the already emerging possibilities of human change that make a decisive answer to the basic question of philosophical anthropology necessary. Namely, what is man?

Weizenbaum: I propose to formulate this question somewhat differently: What is the essence of man? What is the fundamental difference between man and any machine that can be manufactured? And in what way does man differ from any other being that exists? Although it may sound slightly arrogant, in my opinion, the answer is extremely obvious and simple. I never tire of repeating that every man is the result of his personal and individual history. He has his own biography, he lives at a certain point in time, and he is inescapably embedded in the society that surrounds him. That is, every human being is a special case, and if we hypothetically consider the crazy idea that one day there could actually be an intelligent machine that moves like a human being and looks uncannily like a human being, still, that machine will never be a human being. Because its history is also different, it must be different. Therefore, it will always differ from a human being.

Pörksen: For the time being, we can expect a hybrid of organic and inorganic components. We are already implanting electronics into our bodies, using pacemakers and various prostheses, wearing hearing aids as a matter of course, and having artificial hips and heart valves implanted. Historian of science and feminist scholar Donna Haraway celebrated this nascent merging of man and machine in her famous "Manifesto for Cyborgs," urging us to enjoy it and recognize its emancipatory power. Her feminism-inspired argument, somewhat pointedly stated, is that merging man and machine and creating the so-called cyborg loses the foundations of the distinction between man and woman, the fundamental difference that is the basis of oppression. If we all finally become cyborgs, there is no basis for continuing to constitute woman as an other and as an object to be oppressed. Haraway writes, "Hence, cyborg politics stands on noise and on disuse, hailing the illegitimate fusion of animal and machine. Such connections render woman and man problematic, undermining the structure of desire, the imagined power that language and gender have produced, and thus subverting the structures and modes of reproduction of

Western identity, nature and culture, mirror and eye, servant and master, body and mind."

Weizenbaum: This is well-written but extremely superficial thinking. I keep noticing that a high degree of naiveté characterizes the deep thinkers who deal with issues of this kind. What bothers me about Donna Haraway's ideas? For one thing, I don't think the difference between men and women is resolved at all. In most science fiction, the cyborg very much has a gender, and this fact should not be simply ignored when arguing in this way. Meanwhile, that short passage you quoted exemplifies a different kind of euphoria about progress: Hopes of machines becoming aids to emancipation shift a social problem – the eternal conflict between men and women – into the technological realm, where it is claimed that there exists a technological solution. I can certainly solve a mathematical equation, but human and social problems will never be solved definitively in this manner.

Pörksen: But don't we have to be grateful to machines in other respects? The writer Peter Glaser was once challenged by a television station to deliver a speech to humanity in ten sentences. His last sentence impressed me: "Be kind to the machines!" To me, this means that machines may not be peacemakers in the battle of the sexes, but they remain aids to knowledge, forcing us to engage in anthropological reflection and requiring that we be grateful and friendly to them.

Weizenbaum: I also like this sentence, but I understand it somewhat differently. If we do not despise our machines but treat them well, perhaps a different attitude toward our fellow human beings will emerge. That is not necessarily the case, but at least it is possible, and at least this sentence means that we should be friendly in the first place – regardless of whether we are dealing with a machine or another human being. This writer says, “Be kind to machines!” You could also say, “Be kind to the world!”

Is Nature independent from God's Will? Some Views from Classical Islamic Philosophy[*]

by Luis Xavier López-Farjeat

The Islamic classical period (750–1258) is the most representative of the history of Islamic philosophy. With the rise of the Abbāsids in 750, a new translation movement of antique texts drove the subsequent spread of scientific and systematic philosophical ideas throughout the caliphate, which had a great impact on the development of Islamic thought. Islam's first substantial contact with Greek philosophy occurred at the beginning of this period. By the 9th century, Islamic thinkers assimilated, adapted, and transformed philosophical Greek ideas, recontextualizing concepts and arguments according to their own tradition, cultural environment, and intellectual interests, giving rise to what we now commonly call 'Islamic philosophy' or, sometimes, 'philosophy in Islamic lands'.

What is usually understood by 'Islamic philosophy' is a series of theoretical concerns and the configuration of a worldview that arose within Islamic lands and an Islamic cultural environment. This does not mean that Islamic philosophers raised problems that were of interest exclusively to Muslims. They were engaged with philosophical problems *per se*. The cultural and religious environment in which they produced their ideas, however, was a major factor that shaped their philosophical views. In their thought, there is a close connection between philosophy and religion. Yet they did not form a single, monolithic school of thought. Moreover, the philosophers were not necessarily committed to defending the various versions of Islam held by the juridical and theo-

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[*] This essay is based on the second and third sections of chapter five of my book Classical Islamic Philosophy: A Thematic Introduction (Routledge, 2022), where all these matters are discussed in a more comprehensive manner.

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logical schools. Unlike the medieval Christian tradition, in which theologians were also philosophers, in the classical Islamic tradition most philosophers thought of themselves as philosophers, not as theologians. Some theologians, in turn, were suspicious of philosophy, although in many cases they assimilated philosophical ideas, giving rise to what we might consider a philosophical theology (*kalām*).

Among the different sciences and disciplines developed by Islamic philosophers from the classical period, natural science was of particular interest. Amidst Islamic scholars, different—and sometimes competing—theories aimed to explain the origin of the physical world and natural processes. Two paradigms were dominant during this classical period. On the one hand, Islamic theologians (*mutakallimūn*) committed themselves to the study of nature (ṭabīʿa) to further their understanding of the physical world as an effect of God's will and His act of creation out of nothing. On the other hand, Peripatetic philosophers, that is, those who followed Greek authors who had written on physics and natural science, argued for the eternity of the world. The definition of nature closely relates to this debate on the origin of the world. While for the theologians the world was created by God and everything that happens in it depends absolutely on the divine will, the philosophers, while conceiving the world as generated by God as the First Cause, argued at the same time in favor of natural causality and, therefore, of the autonomy of natural causal processes.

The Notion of 'Nature' and its Aristotelian Background

Islamic philosophers adopted Aristotle's notion of 'nature' as the principal cause of motion. These philosophers explained the origins and behavior of natural bodies in connection with the processes occurring in what in philosophical jargon was called the "supralunary realm," that is, the heavens. Most philosophers argued that although natural processes depend on the First Cause acting through secondary or intermediate causes, that is, the celestial spheres, natural causality was still efficacious. They understood that celestial spheres were responsible for the natural processes that take place in the sublunary world, that is, the Earth. According to their cosmological models, the circular motion of the heavens affects the natural processes that take place below them in the sublunary realm. The sublunary realm consists of the four elements: earth, water, air, and fire. In contrast with the perfectly uniform circular motion of the heavens, the motion of the four elements is rectilinear. Earth and water move downward, while air and fire move upward. Most Islamic philosophers considered the rectilinear motion of the four elements to be erratic.

Like Aristotle and other Greek philosophers, Islamic Peripatetic philosophers thought the four elements constantly mixed with each other, giving rise to composite bodies. The mixing of the elements is due to the circular motion of the heavens affecting the rectilinear trajectory of the elements. When mixed, these elements give rise to the elementary natural materials that make up bodies, for example, the seeds of plants or the flesh, bones, and blood of animals. Besides the influence of the heavens on natural processes, philosophers were also interested in natural processes *per se* and, thus, in the study of natural bodies. For them, natural science included disciplines that investigated the behavior of the heavens and the celestial spheres (cosmology, astronomy, meteorology, etc.) as well as disciplines that study natural bodies in the sublunary realm (physics, biology, psychology, etc.).

'Nature' and 'Causality' in Greco-Arabic

The Arabic term Islamic Peripatetic philosophers used for 'nature' is ṭabīʿa. As mentioned, most of these philosophers inherited the Aristotelian notion of 'nature', sometimes with slight modifications. In his *Physics* Aristotle discussed the meaning of 'nature' and distinguished between those things that exist by nature and those things that exist through other causes. Within the first category, he mentions animals and their parts, plants, and the four elements. Their main characteristic is that 'they exist by nature', that is, they possess an intrinsic principle or innate impulse for change and motion. The second category includes the products of art (i.e., artificial products). This means that to exist, these things need the intervention of other causes because they do not contain the principle of their own production within themselves.

The difference between products of art and natural things functions as a preamble to the definition of 'nature', which Aristotle understands as a "principle or cause of being moved and of being at rest in that to which it belongs primarily, in virtue of itself and not accidentally" (*Physics* 2.1, 192b20–23). Aristotle's ancient and medieval commentators debated this definition, and contemporary interpreters still debate it today. It is not clear whether the 'intrinsic principle' should be understood as an active principle (as the 'formal' structure of natural bodies) or as a passive principle (as the disposition of 'matter' toward motion or change). While Aristotle seems to understand 'nature' as an intrinsic principle through which bodies can move or be at rest, he also affirms that the role of this principle does not consist in "moving something or causing motion, but suffering it" (*Physics* 8.4, 255b29). The tension between these two ways of understanding 'nature'—as an intrinsic principle from which the power to move emerges and as a disposition to be moved or to suffer motion—can lead to different interpretations of Aristotle's *Physics*.

For instance, late ancient philosophers such as Alexander of Aphrodisias (3rd century) and John Philoponus (d. 570), interpreted 'nature' as a power or force that permeated all natural bodies. Both argued that the power that animates living beings and lets them move themselves is a soul. It may be that this view influenced 9th and 10th-century Baghdadi thinkers. Early philosophers in Islamic lands such as al-Kindī (d. 873) and al-Fārābī (d. 950) understood nature as an intrinsic and active principle through which bodies move themselves, instead of having a passive disposition to undergo motion. However, several Islamic theologians, especially those who were part of the 9th-century theological school known as the Ashʿarites, disagreed. Ashʿarite thinkers like al-Bāqillānī (d. 1013) and al-Ghazālī (d. 1111) argued that nature alone was not sufficient to explain motion and change. According to these theologians, there is no reason to assume that nature has an intrinsic principle of motion. Nature undergoes motion or change through external causes, some of which are natural. But given that, for these theologians, the only cause and agent is God, it is unnecessary to introduce natural or intermediary causes. In other words, God is the real cause of motion and change and not nature itself. For instance, for many Ashʿarites, fire was not the cause of combustion: fire does not have an intrinsic active principle to burn a piece of cotton. Al-Bāqillānī and al-Ghazālī argue that God is the real cause and principle of combustion. Combustion is a natural phenomenon that takes place through God's causality; fire is merely an occasion for combustion but not itself the cause of combustion.

This position challenges two ideas: firstly, that nature has an intrinsic active principle that makes motion and change possible, and, secondly, the notion of natural causality. It ultimately leads to occasionalism, that is, the view that God causally determines every process that takes place in the world at every instant. In the seventeenth discussion of al-Ghazālī's *Incoherence of the Philosophers*, there is a good example of Islamic occasionalism. There, he holds that God can interfere in any natural process. He uses combustion as an example and argues that the efficient cause of fire burning a piece of cotton is not the fire itself but God. Occasionalism downplays the notion of natural causality to give priority to divine causality. Theologians such as al-Ghazālī defended occasionalism to make room for God's direct intervention in natural processes. The philosophers, however, held that God, or the First Cause, acts only through intermediary causes. Thus, philosophers like al-Fārābī and Ibn Sīnā (d. 1037) defended an emanative cosmological model in which multiple secondary causes are involved in natural processes.

Despite there are some differences if one reads carefully the different Islamic philosophical conceptions of nature, in general terms the philosophers agreed that the natural or sublunary world is the effect of secondary causes (be it what they called the agent intellect, or the circular motion of the celestial spheres). These causes generate 'prime matter', that is, the primary component of all bodies in the sublunary world. The four elements proceed from prime matter and, when these elements combine and mix in different ways, influenced by the celestial spheres, they generate numerous kinds of bodies: minerals, plants, animals, and human beings. In this short space, I will briefly compare two of the most important conceptions of nature within classical Islamic philosophy, namely, that of Ibn Sīnā (Latinized as Avicenna) and Ibn Rushd (d. 1198, Latinized as Averroes).

'Nature' According to Ibn Sīnā

Ibn Sīnā's understanding of 'nature' is found in the part devoted to *Physics* of his monumental work known as *The Healing*. There, he adopts Aristotle's definition: nature is the first principle of motion. Unlike Aristotle, however, Ibn Sīnā does not think the existence of nature is something self-evident; it needs to be demonstrated. Physics cannot demonstrate it because, in his interpretation of Aristotle's theory of science, a science cannot demonstrate its own subject matter. Thus, Ibn Sīnā holds that the metaphysician must prove the existence of nature.

Ibn Sīnā understands that, according to the science of metaphysics, God, or the First Cause, is the originator of the world as a provider of forms or essences to the material world. God provides forms or essences to an eternal prime matter, thus producing natural bodies that are composites of form and matter. However, he describes form and matter as intrinsic principles of natural bodies. In addition to these two principles, Ibn Sīnā mentions two extrinsic principles. The first is the agent, which impresses the form of bodies into their matter, making the matter subsist through the form. The second of these principles is the end; that for the sake of which these forms are impressed into the matter. Ibn Sīnā is referring to what Aristotle calls the efficient and final causes and explains these extrinsic principles in the *Metaphysics* of *The Healing*. In the *Physics*, the starting point is Aristotle's hylomorphism, that is, the idea that all bodies are a compound of form and matter. As Aristotle, Ibn Sīnā thinks that form and matter are inseparable principles of bodies. Moreover, privation is the principle of 'corruption', that is, the passing away or destruction of bodies: when a body's substantial form changes, the body is transformed substantially.

After explaining the intrinsic and extrinsic principles of bodies, Ibn Sīnā deals in the first book of his *Physics* with the definition of nature. He makes a distinction between motion caused by external causes (e.g., water being heated or a stone's rising) and motion proceeding from bodies themselves (e.g., water cooling itself after being heated or the falling of a stone when it is left alone). Within the latter category, he distinguishes four types of motion. (1) Some motions and changes are non-volitional and proceed uniformly, that is, according to a single course (e.g., a stone falls). (2) Other motions are volitional and proceed non-uniformly (e.g., the actions of animals caused by the animal soul). (3) Other motions are non-volitional and proceed non-uniformly (e.g., plant growth caused by the vegetative soul). (4) Finally, there are volitional motions that proceed uniformly (e.g., the motion of celestial spheres caused by celestial souls).

The cause of these motions is nature itself. Ibn Sīnā does not treat them as motions or changes that affect bodies but as motions produced by bodies themselves. Thus, Ibn Sīnā views nature as an active principle that produces motion. Moreover, he explains that there are four kinds of motion: (1) according to quantity (e.g., increase or decrease in volume); (2) according to quality (e.g., alterations in temperature, color, or other properties); (3) according to place (e.g., locomotion and return to 'natural place', that is, a stone moving downward and fire moving upward); and (4) according to position (e.g., the circular motion or rotation of the celestial spheres). Unlike Aristotle, Ibn Sīnā thinks the celestial spheres move with respect to position and not with respect to place: circular motion does not imply changing spatially from one place to another, as rectilinear motion does. Therefore, unlike Aristotle, Ibn Sīnā does not understand circular motion as a kind of local motion.

Finally, according to Ibn Sīnā, there is a principle of motion with respect to the substance (that is, when the form is acquired). In *Metaphysics* 9.5, Ibn Sīnā himself considers that this motion must take into consideration his emanative model. According to Ibn Sīnā's emanative scheme ('emanative' insofar as it is brought about through an 'overflow' of God's generosity), through its self-contemplation, the necessary being (God) causes the existence of a series of intellects. These intellects, through thinking themselves, the intellect above them, and God, cause the existence of subsequent intellects (as well as the respective souls and bodies of the heavens). The lowest of these immaterial intellects, the tenth intellect, is the active or agent intellect, from which the forms of the sublunary world emanate. This complex— and even exotic to our eyes—model is necessary for understanding the motion with respect to the substance, that is, the process through which material bodies receive their forms. This means, as Ibn Sīnā holds in *Physics* 1.5, that nature has the disposition to acquire its form from elsewhere. In this sense, nature is passive. So, to the question raised earlier of whether Aristotle's principle of motion refers to an intrinsic active principle or a passive disposition toward motion, Ibn Sīnā assumes both: nature is active as long as it is itself the immediate efficient cause of motion; however, nature is passive as long as it has the disposition to become subject to motion.

Physics also deals with the necessary conditions for motion, not just the principles of motion and the kinds of motion. These conditions are place, time, and continuity. Briefly, the place is defined as that in which a body exists, and no other body can exist together with it; thus, the place shall be understood as coextensive with the body. According to this definition, place is the unmovable limit where a body is contained. Like Aristotle, Ibn Sīnā explains that place should not be confused with the void. The void is commonly understood as something that exists between two bodies. Following Aristotle, Ibn Sīnā holds that place does not exist separately from bodies. Therefore, the void—that is, a place where there are no bodies—is something that cannot have a real existence. The place is defined in relation to a body. Therefore, the place cannot be thought of as different from the bodies themselves.

Some theologians, however, argued that the void was necessary for motion to take place. By contrast, Ibn Sīnā argues that there could not be a void between the two extremes of motion. According to Ibn Sīnā, motion must be continuous, contiguous, and successive in time. Thus, he rejects the possibility of the void and discontinuous motion: if the void existed, bodies would necessarily move to infinity, as in the case of Zeno's paradox: if Achilles wants to catch up with the tortoise, he will need to travel infinite distances; thus, he will never reach the tortoise. In this refutation of the void, Ibn Sīnā uses the notions of time and continuity.

Concerning the notion of 'time', Ibn Sīnā defines it as the measure of motion when it is divided into the prior or the posterior, not with respect to time but with respect to distance. He adds that time cannot be self-subsistent but, rather, exists in matter through the intermediary of motion. Thus, if there is neither motion nor change, there is no time. Every motion or change happens according to before and after. Before and after cannot exist simultaneously. If there were no change or difference involved in a thing's generation or corruption, that is, if there were no difference between the way something was before and how it is after changing, then there would be no time. In other words, time exists only with the renewal of states (from before and after), and this renewal must be continuous. Otherwise, again, there would be no time.

'Nature' According to Ibn Rushd

Ibn Rushd also preserved the Aristotelian definition of nature as the principle of motion and change. However, unlike Ibn Sīnā, Ibn Rushd adhered to Aristotle's view of nature as something self-evident, which did not need to be demonstrated. According to Ibn Rushd, physics aims to investigate the general causes of everything that exists in nature, its general properties, and its causes. With that purpose in mind, he affirms that he will follow Aristotle, who began by defining nature and then explained its first causes, namely, prime matter and the prime mover. Ibn Rushd addresses the idea of prime matter in the first two books of his commentaries on the *Physics*. After discussing the prime matter and the different kinds of motion, in book eight of his *Long Commentary* *on Physics*, he provides proofs for the existence of what, following Aristotle, he calls the 'prime mover', showing that efficient and final causes can be considered part of physics and not only as part of metaphysics, as Ibn Sīnā thought.

Ibn Rushd understands 'prime matter' as a physical principle that is neither generable nor corruptible but is the precondition for change (of generation and corruption). As explained earlier, prime matter is pure potentiality and, therefore, can assume any form, given its lack of essential properties. Prime matter needs to be actualized. This actualization takes place because the first mover causes the transformations of matter into simple bodies (the four elements) and the rest of the natural bodies, constituted by the mixture of the four elements. In sum, the complex process of actualizing prime matter leads to the formation of bodies that are matter–form composites. Prime matter remains unchanged as long as it is not subject to generation and corruption.

Those changes are due to the influence of the celestial spheres on the processes that take place in the sublunary realm. The union of matter and form takes place through the eternal and continuous motion of the celestial spheres. That process explains the emergence of corporeal forms, which is matter's most basic determination, its dimensionality (length, breadth, and depth). Through the first transformation of prime matter, simple bodies emerge. These simple bodies are the four elements with their specific properties: fire (hot and dry), air (hot and moist), water (cold and moist), and earth (cold and dry). In the sublunary world, these elements are mixed with each other. These elements cannot reach a state of purity; depending on the proportion of their mixture, the four elements give rise to what Aristotle and Ibn Rushd call 'homoeomerous bodies' (that is, bodies composed of homogeneous parts) that constitute the tissues and organs of the organic bodies of plants and animals.

The four elements are subject to three different kinds of change: locomotion, alteration, and generation and corruption. In addition to these, all other bodies are also subject to growth and diminution. In his three commentaries on the *Physics*, Ibn Rushd examines the Aristotelian distinction between natural beings (characterized by their capacity to move by themselves) and artificial beings (characterized by their need for an external mover). Like Ibn Sīnā, he holds that natural beings have the principle of change in themselves, so nature is an active principle. There is, however, an important distinction between Ibn Sīnā and Ibn Rushd. Ibn Sīnā holds that nature is both active and passive in some respects because it is the recipient of forms provided by the agent intellect. Therefore, metaphysics studies the causal process whereby natural bodies receive their forms. In other words, the study of the efficient and final causes is the domain of the metaphysician. By contrast, Ibn Rushd does not hold that forms are given; rather, they emerge from prime matter itself through the change or motion triggered by the eternal circular motion of the celestial spheres. These spheres, in turn, are moved by their desire for the unmoved mover. Ibn Rushd views the unmoved mover as the final or ultimate cause of the universe.

In the long commentaries on *Physics* and *Metaphysics*, where Ibn Rushd's final and more Aristotelian position can be found, unlike Ibn Sīnā, he does not credit the active intellect with the production of sublunary forms. Rather, natural forms exist potentially in prime matter. Thus, the forms of simple bodies (the four elements) and the forms of compound bodies or homoeomeric compounds are obtained from matter itself through the eternal and continuous motion that triggers natural processes, that is, the transformation of matter. Following Aristotle closely, Ibn Rushd understands motion as the actualization of beings that can move. In other words, bodies have the potentiality for motion. As long as this potentiality is actualized, motion is understood as the perfection of what is movable. As in the case of Ibn Sīnā, for Ibn Rushd, motion can be divided according to different categories: there is motion according to substance, quantity, quality, and position. Motion itself cannot be placed within any of the categories. Each category constitutes different kinds of motion: increase or decrease in volume, alteration, generation and corruption, and moving from one position to another. According to Ibn Rushd, in its broadest sense, motion is continuous; otherwise, nature would cease to exist. The mature Ibn Rushd of the *Long Commentary on Physics* affirms the eternity of motion. Time is not identical to motion, but it is closely connected with it. Without motion, time would be imperceptible.

Another condition or characteristic of physical bodies is place: bodies occupy a place, and place does not exist separately from bodies. Like Aristotle and Ibn Sīnā, Ibn Rushd understands place as the outer surface of a body. The place should not be confused with empty space or the void. Also, Ibn Rushd denies the possibility of the void.

The Constitution of the Natural World: Atomism among the Mutakallimūn

There were different theories among Islamic theologians regarding the constitution of the material world. In early *kalām*, that is, around the late 8th and early 9th centuries, some theologians thought material bodies were made up of either a bundle of accidents, out of a bundle of interpenetrating material bodies, or out of atoms with their incorporeal accidents. Out of these three positions, among Islamic theologians, the last became the predominant view. Islamic theologians held that God created the world in time and understood ‘creation’ as a permanent process through which God constantly creates and recreates atoms and accidents. The created world is nothing but the interaction of atoms that depend on God. This interaction explains the constitution of bodies but also the events and occurrences that take place in space and time.

The theological literature that is most characteristic of Islamic atomism dates from the 10th and 11th centuries. It was produced mainly by the early theological school known as the Muʿtazilites from Basra and Baghdad and by a later school already mentioned, the Ashʿarites. According to these *mutakallimūn* or theologians, a finite number of atoms make up the material bodies in the natural world. Among early theologians, the difference between atoms and bodies was that whereas atoms lacked dimensions, bodies had length, breadth, and depth. The combination of atoms produces the dimensions of bodies. However, there was an intense debate among the Muʿtazilites regarding the number of atoms that were necessary to constitute a body. For most Muʿtazilites, bodies were composed of a finite number of atoms (four, six, eight, etc.). Discreteness was a characteristic applied to atoms, material bodies, space, time, and motion. The number of atoms constituting a body needed to be finite; otherwise, an infinite number of atoms would imply an infinite number of divisions. Most Islamic theologians, except for al-Naẓẓām, completely rejected the existence of an actual infinite number. If there were an actual infinity, something similar to Zeno's paradox would result.

In fact, Abū al-Hudhayl formulated an argument similar to Zeno's dichotomy paradox. If an ant moves along a sandal, to cross the entire sandal the ant would need to first traverse half the sandal. But to traverse half the sandal it would first need to traverse half of the half, and so on. Therefore, the ant would never be able to cross the entire sandal. According to Abū al-Hudhayl, this argument proves that bodies cannot be continuous and composed of infinite parts. Conversely, bodies are discrete rather than continuous and are composed of a finite number of atomic parts. This argument was rejected by the theological tradition. For instance, al-Naẓẓām (d. 845) rejected it and instead formulated a theory of leaps, according to which the ant does not need to traverse each point of the sandal. Rather, in its path, the ant traverses some points but leaps over others. Al-Naẓẓām, among several theologians, suggested that the division of material bodies into infinite parts was coherent. However, his position was not well received by many other theologians.

In the 10th century, the Persian Muʿtazilite Abū Hāshim al-Jubbāī added spatiality to the notion of the atom. Given their materiality, atoms occupy a place in space. However, atoms have a minimal magnitude. An atom is comparable with the geometrical notion of a point. Points have no parts and, in this sense, are equivalent to indivisible magnitudes or atoms. Since points are indivisible, when a line is defined as the shortest distance between two points, two indivisibles constitute the notion of length. Similarly, bodies are the result of the aggregation of indivisibles, that is, discrete atoms with a minimal magnitude and spatially separated from each other.

It is worth noting how the aggregation of several atoms results in a body. For most Islamic theologians of the 8th and 9th centuries, space itself was also composed of minimal, indivisible parts. However, this was one of the most criticized views of atomist theologians. Many 10th-century theologians, including al-Jubbāī himself, rejected this position. One of the difficulties implied in the notion of space as composed of minimal parts was the existence of the void.

There were different conceptions of space among Islamic theologians. For most Basrian Muʿtazilites, space consisted of the place occupied by a body. The existence of place thus depended on the specific area where a body is situated. However, if a body changed its position or was removed from an area, the space left behind should be considered an empty space or a void. This distinction is relevant: according to some

Islamic theologians, there were two kinds of space necessary for motion to take place. On the one hand, there was 'space', understood as the place that a body occupies. On the other hand, there was 'space', understood as an empty place that could be occupied by a body. These two kinds of space were viewed as contiguous regions that explain motion: bodies occupy a place, but at the same time, they are surrounded by unoccupied space, that is, empty space.

This last distinction was controversial among theological schools. It was defended primarily by the Basrian Muʿtazilites and by the Ashʿarites, whereas most Baghdadi Muʿtazilites rejected the idea of an empty or unoccupied space. The Baghdadi Muʿtazilites argued that there is no void, and space is filled with atoms. Now, if there is no empty space, then space cannot be the empty place that a body could occupy but is, rather, the surface that encloses bodies. These Muʿtazilites were, therefore, closer to the Peripatetic position than other theologians. Aristotle not only criticized atomism but also rejected the existence of the void and the idea of space as something unoccupied by matter. He also held that there is no space without bodies and that, therefore, space is the surrounding surface of bodies. It is evident, then, that among Islamic theologians, there was a discussion regarding the existence or non-existence of the void and the way space should be defined.

The conception of space relates to motion and change. One of the reasons why the Muʿtazilites from Basra argued for the existence of the void was that if there were no empty space between atoms and bodies, motion would be impossible. Given that locomotion is empirically confirmable, that is, that a body can move from one place to another, the void must exist. By contrast, the Baghdadi Muʿtazilites opposed this position, arguing that instead of empty space, there must be air. Therefore, when a body moves from one place to another, this body must occupy the same place as the air. They considered this possible because they believed air to be a body capable of expansion and compression.

Space and time were both described as relative measures. Moreover, given the discreteness of atoms, both space and time were considered discrete. The notion of space is closely related to the notion of a body. The existence of space is empirically verifiable through observing the behavior of bodies. An essential characteristic of material bodies is that they can move from one place to another; that is, they are subject to motion. Understood as the duration between two events or actions, time is dependent on motion. Among Islamic theologians, time was usually conceived of as 'timing'. To measure time, bodies need to be in motion, and motion can only take place if there is space. Time and space coexist as properties of the physical world; they would not exist if there were no bodies. However, according to most Islamic theologians, time and motion are discrete or discontinuous. In their view, if there were continuity in time and motion, there would be an infinite number of past days and the motions of bodies would be infinite. If time and motion were infinite, this would imply the material world has always existed: given that time is the measure of motion, infinite time implies infinite motion, and infinite motion implies that material bodies have always existed.

Thus, if there were continuity in space, time, and motion, then the conclusion that the world perpetually exists and has perpetually existed would be correct, as Aristotle and the Peripatetic philosophers argued. However, most Islamic theologians argued that the world was created in time. Thus, through their atomistic conception of the material world, they tried to prove that the world and its constituents were not infinite in themselves but depended on divine agency, that is, on God's creative act. As shown, this position led these theologians, especially some Ashʿarites, to defend hard determinism and sometimes occasionalist positions, which down-played—and, in some cases, altogether denied—the idea of natural causality.

Islamic Philosophers Against Atomism

Islamic philosophers disagreed with the atomistic views of the theologians. Ibn Sīnā formulated one of the most devastating criticisms of atomism. Again, his approach was heavily dependent on Aristotle's philosophy of nature. Ibn Sīnā defined natural bodies as substances with length, breadth, and depth. Instead of proposing an atomistic structure for material bodies, he argued, following Aristotle's hylomorphism, that each body is fundamentally constituted by two internal principles, namely, form and matter. Ibn Sīnā's arguments against atomism attacked the idea that the aggregation of parts cannot constitute a natural body. Some of these arguments were mathematical and others were physical, and they are extremely complex. At the risk of simplifying too much, the core of his arguments is that the coherence of understanding how the aggregation of atoms gives rise to composite bodies is problematic. Atomist theologians held that atoms were the smallest parts (or minimal parts) that existed next to one another without touching one another. Ibn Sīnā held that, according to Islamic theologians, there is always empty space, or void, left between these particles when they come together. Therefore, it would be impossible to explain how the aggregation of these particles, which are separated by a void, results in solid, composite bodies.

If atoms are separated by void, this means that bodies are divisible, and it is not entirely clear how separated atoms A, B, and C come together. Thus, proposing that A, B, and C are contiguous or continuous does not solve the problem of their separation. If one assumes that there is a thing, x, by virtue of which A and B are in contact, and another thing, y, by virtue of which B and C are in contact, then there would remain a separation between the middle parts, x and y, and A, B, and C. Thus, the existence of composite bodies, as perceived empirically, would remain unexplained. The only alternative is to hold that atoms interpenetrate one another. If this were the case, then composite bodies would never be larger than a single atom. Even explaining this hypothesis about how the parts of composite bodies come together runs into problems. If two or more parts (or particles) come together, each particle has the power to move and exert motion on the others, and this would generate friction between them. This friction between two particles, even if mediated by a third particle, would prevent the particles from uniting with each other. This shows that, in fact, the composite body would be ultimately reducible to each of these particles. There would be no way to account for the existence of composite bodies.

Even after Ibn Sīnā's critics, several Ashʿarites emphasized the discontinuity and atomistic structure of nature to justify God's continuous action in the natural world. God creates atoms and maintains their union; thus, humans perceive nature as solid and continuous, even though composite bodies are inherently discontinuous. Whereas Ibn Sīnā thought the Islamic theologians had failed in their attempt to explain how the aggregation of atoms gives rise to composite bodies, the Ashʿarites did not see this process as impossible. They held that God creates and renews the world constantly without Himself being subject to any kind of physical or metaphysical law: in other words, God is omnipotent.

In his work *Uncovering Methods of Proofs with Respect to the Beliefs of the Religious Community*, as well as in *The Incoherence of the Incoherence*, Ibn Rushd criticizes the Ashʿarite positions about creation and their understanding of natural bodies as composed of indivisible particles or atoms. Ibn Rushd defends Aristotelian hylomorphism and the continuity of nature. He holds that God is the cause of the motion of the first heaven or sphere of the fixed stars and the celestial spheres. God moves the first heaven, that is, the first moved and first mover, by way of desire. In this sense, Ibn Rushd admits that God does act in nature, but not in the same way the Ashʿarites thought. Although nature is a product of God, it is something apart from Him and is ruled by natural laws. Ibn Rushd believes the Ashʿarites reduce nature to practically nothing by holding that it is intrinsically discontinuous and that it depends absolutely on God.

Islamic Philosophers and the 'Minima Naturalia'

The main tension between Islamic atomism and the philosophical positions of Ibn Sīnā and Ibn Rushd comes down to this: while atomism assumes a discontinuous conception of nature, the philosophers argue for the continuous structure of nature. Viewing nature as a continuum implies that it can be infinitely divided. Now, as Aristotle himself argued in his *Physics*, an actual infinity is impossible. Unlike mathematicians, both Islamic philosophers and theologians agreed with Aristotle on this last point, but they formulated different responses. On the one hand, as explained, the theologians conceived of atoms as indivisible and, thus, as having no parts. According to Islamic atomists, composite bodies are made up of discrete or discontinuous atoms. On the other hand, the philosophers formulated a different response to the problem of the impossibility of actual infinity. Ibn Sīnā and Ibn Rushd adopted a position not very far from atomism, namely, the Aristotelian doctrine known as *minima naturalia* (literally, 'the smallest natural things'). According to this doctrine, bodies are conceptually divisible to infinity, but physically, there are limits beyond which they cannot be divided. In this sense, although Ibn Sīnā and Ibn Rushd disagree with the Islamic atomists, they agree that physical bodies cannot be divided to infinity. While atomist theologians postulated the existence of an indivisible particle (atom), the philosophers postulated the existence of the smallest or minimal particle.

The doctrine of *minima naturalia* appears in Aristotle and his commentator John Philoponus. It is usually assumed that this doctrine was developed primarily by the Latin scholastics. However, a few scholars working in Islamic philosophical texts have noticed that Ibn Sīnā and Ibn Rushd made important contributions to a theory that is still a matter of debate within contemporary scientific and philosophical literature. According to this doctrine of *minima naturalia*, bodies are compounds of minimal parts that are not infinitely divisible. These minimal parts can be divided, but at a certain limit, they become parts or components of a different body. In *Physics* 1.4, Aristotle introduced the notion of *elachista* (the smallest, or *minima*, in Latin) to explain that natural bodies, like flesh, blood, bones, etc. have a definite limit regarding their size. This means that a body, for instance, an animal, will grow or decrease in the way it is determined by both its matter and its form.

The doctrine of *minima naturalia* assumes that bodies are matter–form composites. Matter has a qualitative disposition that is suitable to the given form. If a body is destroyed and thus loses this qualitative disposition, then the form can no longer be preserved in that body. For example, if a bone is destroyed, it will lose its qualitative disposition and, thus, it will not remain a bone. The smallest physical quantity that was part of the bone will acquire a different form. In other words, the minimal part of the bone will still remain a part of the bone until it becomes something else: dust, for example, which mingles with the dirt in the ground. The smaller the part of a body is, the more vulnerable it becomes to the influence of the surrounding bodies.

In fact, minimal parts can become so small that they become incapable of counteracting the effect that surrounding bodies exert on them. Therefore, there comes a point where minimal parts become identical to the surrounding bodies, and thus they lose their previous form. This is precisely what would happen in the case of a bone that is destroyed or disintegrated until it mingles with the dirt in the ground.

Although Ibn Sīnā and Ibn Rushd rejected theological atomism, they ended up developing a similar physical theory. Whereas the theologians posited atoms, the philosophers posited indivisible minimal parts. There is a difference, however. Theologians thought atoms were conceptually and physically indivisible. Yet the philosophers held that minimal parts were conceptually divisible to infinity, but not physically. They said there were physical limits beyond which the smallest parts could not be divided; beyond that point, they became integrated into other bodies.

As can be seen from the different sophisticated approaches to the study of nature I have explained here, Islamic intellectuals were deeply interested in understanding nature, its structure, and processes. The theologians conceived nature as an effect of the divine will, and therefore as absolutely dependent on it, thereby diminishing natural causality. By contrast, the philosophers, strongly influenced by the science of their time, i.e., Greek science and especially Aristotle, sought, without discarding the idea of God as the author of nature, a systematic explanation of nature in which the philosophical notion of causality was preserved. While each of these approaches is in contention with the other, both formulate powerful arguments that continue to arouse debate. The questions they asked were the right ones and are still valid today: does nature possess an intrinsic principle of motion, or does it require an external agent? Are causal models still effective in explaining physical and natural processes?

What is matter? What is a living being? Although the scientific-philosophical model on which they built their answers has been left behind, the way they posed their questions and the answers they formulated are still exemplary.

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Nature from Kosmos to the system

by Giovanna Morelli

> 'Faith' is not a feeling in the human soul,
> but it is man's entry into reality, in total reality,
> without omissions or reductions.
> Martin Buber

Man and Nature in the framework of *Realitas*

What is nature? And what is man? These questions constitute two parts of a single question. Man and nature can only be identified relative to each other, in their non-symmetrical correspondence—the type of relationship that Illich named "dissymmetric complementarity." We can speak of nature to refer to everything in the physical world, whether organic or inorganic, that is not the work of man, including the existence of man. Everything that occurs in nature belongs to itself. Unlike all that is man-made, nature is sovereign because it is self-generative. In this sense, man is transcended by nature, by its laws, by the generative force of organic nature with its ineradicable life cycle. As Illich reminds us, nature, as the one who gives birth and causes death, was very present in the visions of antiquity.[1]

"Mother nature" is two-faced: the environment is her face that is external to us but in symbiosis with the face that is internal to us, the fleshy body. Our body is formed from the mineral, vegetable, and animal flesh of the world, and the world is, in turn, a sensorial extension of the body, proportionate to our organs of perception. Nature is a great sensori-

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[1] I. Illich, *The Rivers North of the Future. The Testament of Ivan Illich as told to David Cayley*, House of Anansi Press, Toronto 2005, p.183, epub.

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al and sensual womb within the overall framework of being, which I call *realitas*: the immense archetypal symbol of which humans are a part but are also more or less sensitive interpreters. In this view, the natural forms are combined with the forms made by man.

Man, transcended by nature, in turn transcends it. Man is the door that opens *realitas* to further meaningful figures such as self-consciousness and personal self-determination, awareness of the whole, and the sacredness of being. The human space of freedom from nature and its determinisms allows creative interaction with the natural world and the creation of a second, properly human. Man's identity and survival are ensured equally by his belonging and dependence on nature and by his difference and autonomy from nature, by his naturalness as well as by his unnaturalness. The right proportion between belonging to nature and autonomy from nature includes proportionally *unnatural* instrumental choices: in the name of the *sovereignty of the person*, man can elaborate the laws of the body and the environment to enhance his own performances with the help of *non-violent technologies*, which are respectful of the *sovereignty of nature*. The *sovereignty of nature* finds its limit in the *sovereignty of the person*, but the *sovereignty of the person* also finds its limit in the *sovereignty of nature*. Ontologically conscious choices are those capable of respecting this double, mutual constraint.

We can speak analogically about animal cultures, languages, and arts if we do not forget the novelty of the human phenomenon, the threshold of differentiation between man and nature. The human innovation is nevertheless based on continuity. Animals appear to us as being simultaneously very close and also very distant companions: very close, because they, like us, are bearers of animated flesh, that flesh which is our first ontological distinction from machines; very distant, because they are beyond the threshold of the awareness that man has of the whole. The sensorial and sensual experience of the body and the environment is elaborated by man in symbolic production, in the life of the *logos*, in ritual, art, and technical practices. Man experiences nature only through this embodied *neo-narration* that is called culture. This gift of being human corresponds to a reduction of innate animal abilities.

The great narratives of humanity complete the picture of *realitas* by recognizing a third ontological realm, through and beyond the physical world of space-time. Even though the natural world belongs to itself and is complete within itself, it trespasses into the transcendent by which it is generated and shaped. This "other" dimension is embodied in the human being and renders man ontologically different from other beings by guaranteeing a margin of freedom from every natural and social determinism. "Making Sacred" the *realitas* means welcoming the revelation of this transcendence and tirelessly questioning the framework of *realitas*—which marries transcendence, man, and the world to ensure human intervention is appropriate to it.

Kosmos and dissymmetric proportionality

Ivan Illich refers to the composite picture of *realitas* with the word *kosmos* and defines culture as "the art of seeing the *kosmos.*" The characteristics of the *kosmos* are revealed to the "specially trained gaze" capable of a cosmic conception of *realitas*. The cosmic vision pierces through the veil of chaos to see the "net of correspondences" that connects and gives meaning to *realitas*. *Kosmos* means order, proportionality, and appropriateness of a relationship.[2] Similarly, as Illich recalls, the original meaning of *logos* (in Latin *verbum*) refers to proportionality, to congruence.[3]

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[2] I. Illich, *La perte des sens*, Fayars, Paris 2004, "La sagesse de Leopold Kohr" (1996), p. 237.

[3] I. Illich, *The Rivers North of the Future,* op. cit., p. 462.

Kosmos is an overall weaving, a net of differences/correspondences, a *gestalt* that does not break down the polarities of being. The intrinsic novelty and dignity of each experiential level are just as substantial as their co-existence and complementarity. To describe this "ontic proportionality,"[4] this ontologically harmonious but not monistic vision typical of ancient traditions, Illich introduces the term "dissymmetric complementarity."

> For all worlds before our own, at least all those of which I know anything, it is a certainty that there is a correspondence between what is here and what is beyond. Heaven is mirrored by earth. The baby I saw in a woman's arms yesterday is a cosmos, a microcosmos. When I look at this baby, I see something which appears, at first sight, utterly dissymmetric from what I see when I look up at the stars, and yet they fit at every point. They are both complementary and mutually constitutive, that is, the existence of one implies the other. Each people discern this complementarity through a specially trained gaze which anthropologists call culture, though I would rather speak of the art of seeing the cosmos, bearing it, suffering it, and enjoying it. The assumption that the world is a net of correspondences [...] is the assumption that all existence is the result of a mutually constitutive complementarity between here and there.[5]

The "cosmic understanding of being" referred to as the Great Tradition,[6] "considers the dualities of male and female, up and down, heaven and earth, to be fundamental and irreducible."[7] Illich speaks of the "perceptual duality" needed to apprehend the differences of being and their mutual congruence and generativity. The visual epiphany of the world itself is a cosmic event, the "fruit of the fit between two dissymmetric complements,"[8] like eyes and colors. Dual perception also reveals the places of the *Sacrum.*[9] Illich indicates as Sacred the thresholds where "the ultimate, the true otherness, the transcendent, that which is beyond" appears.

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[4] I. Illich, *La perte des sens*, op. cit., "Passé scopique et éthique du regard" (1995), p. 298.

[5] I. Illich, *The Rivers North of the Future,* op. cit., pp. 315-316.

[6] I. Illich, *La perte des sens*, op. cit., "La sagesse de Leopold Khor" p. 250.-

"When the idea of contingency, of constant creation by the will of the Lord in heaven, made its appearance, it had an ambiguous effect on this cosmic conception of reality," says Illich.[10] In some cases (e.g. Hildegard of Bingen) the idea of the world as constantly produced by divine will combines with a sense of the cosmic intelligence of being and with a perception of the vitality of nature. Thus, "the sense of contingency seemed only to heighten her [Hildegard] enjoyment of the relations between the microcosmos and the macrocosmos."[11] Nature is glorified thanks to "God's constant, creative support"[12] from which it receives its vitality. Cosmo-theo-andric (or theo-anthropo-cosmic) models such as that of Raimon Panikkar fall into this tradition (in this triad the term "cosmos" stands for the natural world).

However, according to Illich, the idea of the contingency of the world to God also has an opposite outcome, which is the vision of a world whose existence is not intrinsically regulated by the cosmic *complexio oppositorum*:

> But the sense of contingency, for others, was a step in the

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[7] I. Illich, *The Rivers North of the Future,* op.cit., p. 317.

[8] I. Illich, *La perte des sens*, op. cit., "Passé scopique et éthique du regard", p. 298.

[9] D. Cayley, *Ivan Illich in Conversation,* House of Anansi Press, Toronto 1992; pp. 418- 419, epub.

[10] I. Illich, *The Rivers North of the Future,* op.cit., p. 316-317.

[11] Ivi, p. 316.

[12] Ivi, p. 183.

> direction of monism, because a world in which everything immediately depends on God can be interpreted as a world reducible to a basic homogeneity or oneness, and this deeply undermines traditional cosmology, which is gendered and considers the dualities of male and female, up and down, heaven and earth to be fundamental and irreducible.[13]

The horrible resurrection of nature: the system as perverted kosmos

"The beginning of modernity coincides with an attempt to break out of a worldview defined overwhelmingly by contingency," says Illich.[14] Once the transcendence of the divine has disappeared, the world is abandoned to the gray homogeneity of monism. As Illich wrote, "a sense for this kind of mutually constitutive dissymmetric complementarity, for such ontic proportionality, is not included in those axioms that determine the mental topology of modern times."[15] "The cosmos was discarded" when, with modernity, the world passed from the hands of God to those of man.[16]

The homogeneous vision is typical of systemic epistemology that recognizes the "integrated complexity" of the world but in a monistic sense, which is an inversion of the cosmological vision of the world. It is this perversion that we encounter, among others, in the ambivalence of Gregory Bateson's thought.

> The Australian aborigine had, in his totemic cosmology, a system that brought all natural species and forces and human institutions, plants and animals, wind and thunder, circumcision and the boomerang he used in hunting, into a relationship and defined his place in that complex whole-

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[13] Ivi , p. 317.

[14] Ivi , p. 180.

[15] I. Illich, *La perte des sens*, op. cit., "Passé scopique et éthique du regard", p.298.

[16] Ivi, "La sagesse de Leopold Khor," p. 250.

> and allowed him to use the sense of that multiplicity of relations in the decisions of his life. The European peasant in the Middle Ages went out to plow the fields in the presence of a great crowd (or cloud) of witnesses, patron saints, powers and principalities, and, of course, angels. The truth that the aborigine and the peasant share is the truth of integration. By contrast, we must be concerned today because, although we can persuade our children to learn a long list of facts about the world, they don't seem to have the capacity to put them together in a single, unified understanding – there is no "pattern which connects." For most human beings throughout history, the pattern which connected their individual lives to the complex regularity of the world in which they lived was a religion, an extended metaphor, which made it possible for ordinary people to think at levels of integrated complexity otherwise impossible.[17]

Bateson interprets the traditional cosmic vision as a metaphor for his own systemic and monocular perception of the world, a "monistic and unified way of looking at the world."[18] However, the autotelic proportionality of the *Kosmos* is constituted by dissymmetries or harmonized ontological differences; the unity of the whole is accomplished through a continuous marriage between the different, which Bateson reduces to interfaces between subsystems in the biological hierarchy. Bateson will speak equally ambiguously about religion and the Sacred while stripping them of their meaning.

According to Bateson's "Epistemology of the Sacred," the old religious and animistic conceptions, however useful at one time, are now worn-out visions; improper ways of perceiving the holism of the whole. “The pattern which connects” is projected by religions into the supernatural dimension, one of the two “nightmares of nonsense”[19] that obsessed Bateson. The new religion, according to Bateson, derived “from cybernetics and systems theory, ecology and natural history.”[20] The Sacred becomes “the integrated fabric of mental process that envelops all our lives,”[21] “the reality of very large mental systems, systems of ecological size and larger, within which the mentality of the single human being is a subsystem.”[22] And what is Man in this systemic vision of the Sacred? How does Bateson, who regards “myself as a system [and…] the person whom I love as systemic,”[23] characterize man? Answer:

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[17] G. Bateson, M.C. Bateson, *Angels fear. Towards an Epistemology of the Sacred*, Bantam Books, 1988, pp. 195-196.

[18] Ivi, p. 50.

> As a self-recursive communication system […] It may have pain and many other types of awarenesses. It may also be aware of harmony in its own function, and that awareness may become the basis for awe and an awareness of beauty in the larger and more inclusive system.[24]

According to Bateson, this is the new way of celebrating “the natural unity,” the way that can limit “the excesses both of the materialist and of those who flirt with the supernatural.”[25] The old mind-body problem is resolved thanks to the unification of mind and matter; the mind is here “an organizational, not a separate ‘substance.’”[26] Therefore, as much as Bateson fights materialism, his is an authentic materialism.

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[19] Ivi, p. 64.

[20] Ivi, p. 136.

[21] Ivi, p.200.

[22] Ivi, p.135.

[23] Ivi, p.191.

[24] Ivi, p.181.

[25] Ivi, p. 52.

[26] Ivi, p. 50.

The mind is a principle that organizes nature, and this principle does not have an independent existence distinct from matter. "There is no mind distinct from the body and (of course) no body distinct from the mind."[27]

Bateson's nightmare is actually a quantitative or mechanical materialism, which sees only matter without perceiving the structure, the *gestalt*, the organization: "The materialist superstition is the belief (not usually stated) that *quantity* […] *can determine pattern.*"[28]This awareness of form, the sensitivity to the principle of holistic self-fashioning that governs planetary organisms, plants, animals, and men, is the truly precious part of Bateson's thought. But even Bateson's great battle against mechanism resolves itself into a structural rather than quantitative mechanism. For Bateson, bio-cybernetic structures are irreducible to the machine. However, they have the traits proper to the special cybernetic machine: non-linear, and recursive and yet one-dimensional, totally reducible to the material *ratio*, to the objective process that supports them. The notion of machine evolves into that of mind, and the mind is reduced to an evolved machine.

The equation between matter and mind on the one hand, and between mind and cybernetic mechanism on the other, reduces nature to one big (pseudo) intelligent machine with all its subsystems, among which are the humans—complex mechanisms, non-trivial or unpredictable machines according to Edgar Morin's definition—who are increasingly predictable and programmable. In fact, it is possible to design artificial intelligence machines that simulate the most creative human processes and to interfere with these processes.

How did it happen that many of us were initially drawn to the systemic model? What was fascinating about that model was the holistic principle, which is an excellent tool for reading the personal microcosm and organic microcosms, as well as the macrocosm. But we used that model of "integrated complexity" for an operation opposite to that of Bateson, that is, as a metaphor for holistic entities constituted by an internal ontological differentiation. In the important essay "Soins médicaux pour systèmes immunitaires?"[29] Illich recognizes the profound influence exercised on him by Gregory Bateson's thought at the time he wrote *Medical Nemesis.*[30] Illich took up the term coping (from the verb to cope, to indicate the mastery of one's own state), used by Bateson to introduce systems theory into anthropology, and spoke of health as an *intensity of coping*. Illich believed that concepts such as feedback, program, *autopoiesis*, or information if used skillfully, could clarify matters. He later admitted he was wrong.[31]

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[27] Ivi, p. 181.

[28] Ivi, p. 59.

The latent perversion in systemic epistemology subsequently became evident. Awareness of oneself as a system is part of the cultural *iatrogenesis* that Illich discussed in *Medical Nemesis*. The cultural experience of the body—of the nature within us—is expropriated by a clinical and then cybernetic reason, which replaces the art of incarnation: living and dying, enjoying and suffering in the body according to the meanings it takes in direct experience and elaboration of life. Together with the deep sense of self, we lose the carnal materiality of the world; it is the end of nature, "the end of a world proportionate to the senses."[32]

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[29] I. Illich, *La perte des sens*, op. cit.,"Soins médicaux pour systèmes immunitaires ?" (1994).

[30] I. Illich, *Limits to Medicine. Medical Nemesis: The Expropriation of Health*, Marion Boyars, London 1976.

[31] I. Illich, *La perte des sens*, op.cit., "Soins médicaux pour systèmes immunitaires?" p. 264.

[32] Ivi, "La perte du monde et de la chair", p. 355.

Illich would write of a "horrible resurrection of nature."[33] Nature is reborn in the new bio-cybernetic fetish of life, both "a life" as a purely biological fact that removes the person, and life as an eco-system. The natural and supernatural decay together, as parts of a unique cosmogony. "A contingent nature at its noon is gloriously alive, but it is also uniquely vulnerable to being purified and cleansed of its aliveness in the sunset of contingency."[34] The reverential awe, the humility towards "the pattern which connects," preached by Bateson, actually celebrates a desacralized *Sacrum*, that is, devoid of that transcendent depth that opens the picture of being beyond the material *ratio*: "the biological nature (cybernetic, hierarchic, holistic, nonlinear, systemic nature – call it what you will) of the world."[35]

Systemic epistemology—based on seeing man as a biological entity and the biological entity as a cybernetic entity—can therefore flow into the dystopian horizon created by reckless applications of atomic physics, molecular biology, neuroscience, and all the *substrate sciences*, which go beyond the direct experience of nature and the person to break them down into their manipulable micro-components. The history of technoscience here marks an unprecedented epistemic fracture: man-nature interaction breaks down the boundary that separates the "objects" due to a human creative act from those of natural existences. Genetic engineering, bio-engineering, and artificial intelligence usher in the realm of *artificial nature* and *artificial man*; the machine attacks the spirit and freedom of man starting from his body. *Anti-natural* choices are simultaneously *anti-human* choices: choices in which the violence committed on our biological basis com-promises our humanity. Post or trans-humanism defines itself through improper suffixes: the right suffix is *anti*-humanism.

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[33] D. Cayley, *Ivan Illich in Conversation,* op. cit. p. 421.

[34] I. Illich, *The Rivers North of the Future,* op.cit., p. 185.

[35] G. Bateson, M.C. Bateson, *Angels fear*, op. cit., p. 99.

The new cosmic ark of being

The resulting civilizational crisis affects the deepest levels of politics, economics, and techno-science. The protagonist of this crisis is a power with absolutely new features, a power exercised by man against the very ontology of man, as it has always been configured in the dialectic between nature and culture. The new power is a transversal power, compatible with both ecological and humanitarian rhetoric and with nationalist, classist, racial, and sexist ideologies. This power is so pervasive and introjected by its victims that it takes on a character of inevitability. "Political" participation in the fate of the world, militancy for civil causes, and battles against social disparities aggravated by the system do not change the system. Every militancy takes place on a stage where nothing is prohibited because the power of global imperatives to produce, consume, communicate, intermediate, automate, algorithmize, and cybernetize is stronger than everything.

Let us abandon the unrealistic hope of changing this world. But what does that mean? Disengagement, hyper-individualism, or defeatism? No. We cannot be complicit with this power. But we can reserve for ourselves a different hope, we can bear witness to ourselves and to the good in which we believe. The societies of the past are now behind us. Illich has repeatedly asserted the vitality of the vernacular *ethnos*, of traditional and geo-rooted culture. However, ethno-communal virtue as a "naturalized culture" can take on a normative, static, and discriminating character, which can exacerbate distinctive traits to the point of making them defensive and oppositional, leaving us divided and defenseless against the new universal challenge. We need a third way that is radically critical of the present and beyond any restoration of the past. The third way passes through the new marriage of flesh and spirit in the integrity of personal existence and its asceticism, those weddings revealed to history, according to Illich, by the Incarnation of Christ.

The ancient myth of the flood and the ark is perhaps the myth of our times. Illich referred to this myth when he told of Deucalion, son of Prometheus, helmsman of the ark that withstood the flood, and who, together with Pyrrha, his wife, daughter of Epimetheus and Pandora, parented a new humanity generated by the earth.[36] The flood is now underway. We can build that ark and embark. And that ark is, at this moment, our landing place. An ark of hope that Illich called Epimethean, convivial, ark of *philia*, of liberated, Christic brotherhood. From here we start again to weave the "net of correspondences" between I and you, individuals and community, community and humanity, humanity, nature and technology, nature and super-nature: the continuous and never-concluded refinement of our cosmological sensibility according to a new personal sense of proportionality, outside the old naturalized cultural grids.

From here we start again to face the *novum* of *nature and artificial man*: man and nature, spirit and flesh can only be rediscovered and saved together, in a renewed ontological framework and pact that assigns to each component its place. Nature is saved not from within eco-cybernetic battles, that is, through that model that sanctions its death (the paradox of an *anti-natural* ecology). Nature can be known and saved only in proportion to a framework of reality capable of respecting its self-regulation, its transcendence, and its mystery; the same framework capable of defending the transcendence of the person from his *anti-human* double.

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[36] I. Illich, *Deschooling Society*, Harper & Row, New York 1971.

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Natura Alienata:
Two Thinkers between
Sinnesverlust and Bodenlosigkeit;
Ivan Illich and Vilém Flusser

by Leonardo Christopher Eck Glenewinkel

At a certain moment in the 1995 documentary film about the German philosopher Hans Blumenberg (1920-1996), the narrator says: "Wenn wir auch den Himmel über uns verloren haben, so doch nicht schon den Boden unter uns" (even if we have lost the heaven above us, not so, as yet, the ground beneath us).[1] But what if we have indeed lost, or better, are losing, the ground too? I propose to seek an answer to this question by plumbing the *Lebenskreise* (spheres of life) of two great thinkers: Ivan Illich (1926-2002) and Vilém Flusser (1920-1991). Observed synoptically, both biographies shed light on the question of the *Sinnesverlust* (loss of sense) and *Bodenlosigkeit* (groundlessness) in our daily lives.

Both thinkers were born in the doomed interwar period between 1918 and 1939, in which the final downfall of Old Europe was incubated. Illich was born in Vienna, Flusser in Prague, so both shared a post-Habsburgian heritage, the intellectual sphere of *Alt-Mitteleuropa*, but on different sides: Illich was born in the defeated one since the Habsburg Empire was vanquished, whereas Flusser, was born on the victorious side since Czechoslovakia attained independence after World War I. Both grew up in a plurilingual background: Illich with his Italian-German-French linguistic skills and Flusser with his German-Czech skills, and for both, more languages were to come. Both were forced to flee their nations, driven by the

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[1] Zwischen Himmel und Höhle", Film von Burghart Schlicht und Franz Josef Wetz 1995, West-Deutscher-Rundfunk (WDR).

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same diabolic war machine of the Nazis: Illich after 13 March 1938, the day of the *Anschluss* (annexation of Austria to Nazi Germany) and Flusser after the 15 March 1939, with the military occupation of Czechoslovakia. Illich found protection in Florence Italy, in 1942 and began his study of theology at the Pontificia Università Gregoriana in Rome by November 1944. Flusser, socially less protected and 'racially' more exposed by being a Jew from both sides of his parents, fled his country a few weeks after the Nazi occupation of Prague. Flusser and wife Edith reached London, but already in 1940, they decided to leave for Brazil. Illich on the other hand, arrived on North American shores only at the end of 1951, when the horror of the war was already over. What Portuguese-speaking Brazil was for Flusser, the Spanish-speaking part of South America, Puerto Rico, and Mexico, were for Illich. Two "Old Europeans" were forced and decided to live in a Western-non-European environment: for them a mentally virgin world, far away from their acquired habits and ways of thinking.

However, Europe remained decisive for them both. Between 1979 and 1981 Illich held lectures at the Kassel University in Germany, in 1981 he spent a year of research and lecturing at the Wissenschaftskolleg in Berlin, and from 1983 until his death in 2002 he gave lectures in Marburg, Oldenburg, and, consistently, at the University of Bremen. Flusser, in contrast, lived as a real refuge with all its uncertainties: for him, Europe was at once a great temptation and a great abomination, but already in 1972, the Flusser couple went back to the old continent, beginning an intense peregrination between England, France, Italy and, only later, Germany.[2]

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[2] Till now I have followed the two main biographies available for these two men: *Ivan Illich (1926-2002). Sein Leben, Sein Denken* by Martina Kaller-Dietrich, Wien, Verlag Bibliothek der Provinz, Edition Seidengasse, in der Reihe: Enzyklopädie des Wiener Wissens, Band. 1, 2007; *Vilém Flusser (1920-199). Ein Leben in der Bodenlosigkeit. Biographie* by Rainer Guldin, Gustavo Bernardo, Edition Kulturwissenschaft, Band 151, Bielefeld, transcript Verlag, 2017. Of great help were also the brief chronological biography

Despite these biographical similarities, there is no evidence of an intellectual or personal intersection between these two men during this period. Though Illich was in and out of Brazil between 1961 and 1971, there are no records of him meeting Flusser there. Moreover, it seems very unlikely that they did since their intellectual pursuits at the time were not the same. The themes that were central to Illich in the decades between 1960 and 1980 were not at all relevant to Flusser, who in 1965 published in Portuguese *A história do diablo* (History of the Devil), and in 1983, published, *Für eine Philosophie der Fotographie* (For a Philosophy of Photography).

Around the mid-1980s, Illich made a radical turn in his intellectual productions when the question of literacy in history became a major topic for his investigations. In 1988, he published *ABC: The Alphabetization of the Popular Mind*, co-authored with Barry Sanders.[3] Interestingly, though Flusser did not appear in this work, his 1987 published *Die Schrift Hat schreiben eine Zukunft?* (Does Writing Have a Future?)[4] is cited in Illich's 1991 *In the Vineyard of the Text*.[5] Illich also makes direct reference to Flusser's *Im Universum der technischen Bilder* (1985) in his *The Scopic Past and the Ethics of the Gaze. A Plea*

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written by Fabio Milana and contained in: *Pervertimento del Cristianesimo. Conversazioni con David Cayley su vangelo, chiesa e modernità*, a.c.d. Fabio Milana, Macerata, Quodlibet, 2000; and for Vilém Flusser, *Vilém Flusser (1920-1991). Phänomenologie der Kommunikation* by Andreas Ströhl, Köln/Weimar/Wien, Böhlau Verlag, 2013.

[3] *ABC. Das Denken lernt Schreiben. Lesckultur und Identität.* Zusammen mit Bary Sanders. Übersetzt aus dem Amerikanischen von Kuch Cremerius, Hamburg, Hofmann und Campe, 1988.

[4] Vilém Flusser, *Does Writing has a Future?* Translated by Nancy Ann Roth, University Minnesota Press, Electronic Mediations, Vol. 33, 2011.

[5] Here I'm referring to the German edition of 1991, *Im Weinberg des Textes. Als das Schriftbild der Modern entstand*, Luchterhand Verlag, hrsg. Von Freimut Duve, Frankfurt am Mein, 1991, p. 180, Fn. 334; an early French version was published in 1990 with the title *L'Ere du Livre*, Les Editions du Cerf, Paris, 1990; the original English written text was published only in 1996: *In the Vineyard of the Text: A Commentary to Hugh's Didascalicon*, Chicago, The University of Chicago Press, 1996. Here, Flusser's books are quoted at pg. 117, fn. 6.

*for the Historical Study of Ocular Perception (*1995).[6]

Of course, we must remember and consider that Vilém Flusser died tragically on 27 November 1991. Like Albert Camus, he died "absurdly" in a car crash, right after his second visit to his hometown Prague, which he fled in 1939. The years between 1988 and 1991 is the only period during which these two minds, who then shared a common field of interests and were more or less in the same geographical region of Nord-West Germany, could have crossed paths. As it turns out, four days before his death, on November 23, Flusser held his last public speech (*Vortrag*) in Germany in Essen, at the congress "CULTEC- Kultur und Technik im 21. Jahrhundert", in front of an audience of eight hundred people. Flusser's speech was entitled: "Die Informationsgesellschaft. Phantom oder Realität?" (The Society of Information. Phantom or Reality?).[7] The only personal meeting of the two that was witnessed occurred after this speech.[8] The meeting seemed very cordial, and the two spoke as if they already knew each other. This cordiality however did not imply a meeting of minds. Indeed, the two held utterly distinct and irreconcilable views on the question of technology and man. Illich already foresaw the shadow cast by technology on the human soul and flesh, while Flusser saw in it just the next step of human development, the age of a post-humanism *ante litteram*. In May 1991, during his first seminar in Bochum, Flusser pointed out that:

> Since the downfall of Humanism, and therefore, since the downfall of the Enlightenment, briefly, since Auschwitz and Hiroshima, we don't have a *model of the human being*

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[6] *Die skopische Vergangenheit Europas und die Ethik der Opsis. Plädoyer für eine Geschichte des Blickes und Blickens.* Zusammen mit Barbara Duden. In: Historische Anthropologie, 3. Jahrgang, Heft 2, 1995, Böhlau Verlag Köln/Weimar /Wien, pp. 203-221.

[7] Guldin and Bernardo, *op. cit.*, 2017, p. 345.

[8] Here I would like to thank, *vom Herzen*, Marianne Gronemeyer, who vividly told me this anecdote, during a meeting in Friesenheim (Wiesbaden), Germany, on 30 June 2024.

> (*Menschenbild*) anymore. So, eventually, we can, within the field of science dealing with human communication, achieve a new *model of the human being* (*Menschenbild*).[9]

Flusser thought within his timeframe: after the horror of the Second World War, the old ways of thinking were not only rusty and unusable but also dangerous. He felt the "absurdity" of his and our time. Time was not only out of joint, but it was also completely uprooted from the firm ground of the past. In his autobiography, Flusser depicted himself as a still life, or better, using the Italian expression, as *natura morta*, as dead nature. But he still felt the drive (*drang*) to enroot within a new ground (*Boden*), a new world, a new perspective for humanity. In other words, he was looking for a new *humus*, a new firm ground on which to redefine and redesign humanity itself:

> The word "absurd" in its original concept means "without ground", in the sense of being "without roots." Like a plant, which is groundless at the very moment it is picked and placed in a vase. Flowers on a breakfast table are an example of an absurd life. If you try to consider the existence of such flowers, then it becomes possible to feel their drive to root out and to enroot in some ground. This drive of the uprooted flowers is the inner feeling of absurd life.[10]

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[9] "Seit dem Zusammenbruch des Humanismus, und daher seit dem Zusammenbruch der Aufklärung, also kurz gesagt, seit Auschwitz und Hiroshima, haben wir kein Menschenbild mehr […] Also, vielleicht, können wir auf dem Gebiet der Forschung der menschlichen Kommunikation zu einem neuen Menschenbild gelangen.". The translation, as well as the transcription of the German text is mine. Source: *Vilém Flusser- Die Gefahren der digitalen Kommunikation* von Michael Reitz, SWR2; Sendung: 4. Januar 2019, Redaktion: Ralf Kölbel, Regie: Günter Maurer.

[10] "Das Wort »absurd« bedeutet ursprünglich »bodenlos«, im Sinn von »ohne Wurzel«. Etwa wie eine Pflanze bodenlos ist, wenn man sie pflückt, um sie in eine Vase zu steilen. Blumen auf dem Frühstückstisch sind Beispiele eines absurden Lebens. Wenn man versucht, sich in solche Blumen einzuleben, dann kann man ihren Drang mitfühlen, Wurzeln zu schlagen und diese Wurzeln in irgendeinen Boden zu treiben. Dieser Drang der entwurzelten Blumen ist die Stimmung des absurden Lebens," in: Vilém Flusser, *Bodenlos. Eine philosophische Autobiographie*. Mit einem Nachwort von Milton Varga, Bensheim und

Flusser describes furthermore this deeply damaged form of existence as a senseless circular movement, having nothingness as background (*Die sinnlose Kreisbewegung, mit dem Nichts als Hintergrund, ist die Stimmung des absurden Lebens*).[11] He calls this form of experience the inner feeling of groundlessness (*Stimmung der Bodenlosigkeit)* or the consciousness of being without firm ground. But unlike Sartre or Heidegger, Flusser placed his "existential philosophy" not on an ontological level but on a historical one: Auschwitz and Hiroshima were, for him, the two fused historical moments in which the old *humanitas* ceased to exist. Already after the invasion of Czechoslovakia, in 1939, he said that "reality itself crumbled, and piece by piece, fell into the abyss." (*die Wirklichkeit bröckelte ab und fiel stückweise in den Abgrund*).[12]

A similar feeling was experienced by a young Ivan Illich in March 1939, during the Nazi occupation of Austria:

> I remember the day when I became old once and for all. I cannot forget the dark clouds of March in the evening sun and the vineyard on the Sommerleite between Pötzleinsdorf and Salmannsdorf near Vienna, two days before the "Anschluss." Until that hour it had been a certainty for me that someday I would give children to the old tower on the Dalmatian Island. Since that lonely walk, this seemed impossible. Then, as a twelve-year-old boy, I experienced the disembedding (*Ausbettung*) of the flesh from the warp and weft of history, even before a command was issued from Berlin to gas all fools in the Reich.[13]

Düsseldorf, Bollman Verlag, 1992, p. 9 (my translation.)

[11] Flusser, *op. cit.*, 1992, p. 9.

[12] Flusser, *op. cit.*, 1992, p. 23.

[13] "Ich erinnere mich an den Tag, an dem ich für immer vergreist bin. Ich kann die schwarzen Märzwolken in der Abendsonne nicht vergessen, und den Weinberg auf der Sommerheide zwischen Plötzleinsdorf und Salmannsdorf bei Wien, zwei Tage vor dem Anschluss. Bis zu jener Stunde war es mir eine Selbst-verständlichkeit gewesen, einmal

Interestingly, looking back a half-century from around 1992, for both Ivan and Vilém the darkened sky of Nazism corresponded to the end of the World, a *World of Yesterday*, as the writer Stefan Zweig called it in his autobiography.

However, even if their historical experiences were similar, the consequences drawn from them by the two thinkers could not be more different. As we have already pointed out, Flusser wanted to rebuild and redesign the modern world, of course not in the image of the old one, which he detested, but in the image of the new upcoming era of technology. His *Bodenlosigkeit*, his historical absence of firm ground corresponded to the need for a new beginning. Flusser tried to embody this in his biography: Brazil was for him a new beginning, and Europe was a new beginning as well: whether it was Robion, France, or Meran—a multicultural city placed in the Italian Alps but historically and linguistically linked to the German-speaking world where he and his wife decided briefly to live—it didn't matter. But besides these personal situations, Flusser wanted to re-think the history of the human condition *generaliter*, in its wholeness, and for this reason, he perceived the new beginning as an awareness of being historically placed. In other words, he was aware that our "Menschenbild", the model of how we conceived and conceive mankind is the result of history, or, as he pointed out in a very poignant and almost profane way:

> I don't believe that the models of mankind (*Menschenbilder*) follow each other, like in a sandwich, but I believe

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dem alten Turm auf der dalmatinischen Insel Kinder zu zeugen. Seit jenem einsamen Spaziergang schien es mir unmöglich. Die Ausbettung des Körpers aus dem Gewebe der Geschichte habe ich damals als Zwölfjähriger erlebt, noch bevor von Berlin der Befehl ausging, im ganzen Reich die Narren zu vergasen." Ivan Illich, *Verlust von Welt und Fleisch*. An Helmut Becker, 19. November 1992, in: „Welt-abhanden", in: *Lust und Last der Aufklärung*. Ein Buch zum 80. Geburtstag von Hellmut Becker, hrsg. von Gerold Becker und Jürgen Zimmer, Weinheim, Beltz Verlag, 1993, S. 76-79. I quote here the English translation made by Muska Nagel and Barbara Duden,

> that they insert into each other (*ineinandergreifen*) and that all previously established models of mankind are present in us. This contemporaneity (*Gleichzeitigkeit*) of the past is, I believe, an important aspect of the so-called post-historical consciousness.[14]

For Flusser, even if there was no way back, the highway of history, which carried forward him as an individual and mankind as a historical concept, was still there, ready to be redesigned in word and representation by progress. This becomes clear when he argues that there is a dialectical interdependence between the *image* and the *word*, in which imagination plays a central role.

> Imagination is a method to bypass alienation, to find an orientation within a lost world. It is a method for hunting, (Lascaux), for making tourism (Michelin-Atlas), and for project-making (projections). But imagination can twist, dialectically speaking, and become a hallucination. The images that result from such an imagination are not mediations with the world anymore, but on the contrary, they become opaque surfaces, which hide the world. The vectors of signification are reversed, and they show not the world anymore but the maker of such images. These images are not instruments of orientation, because mankind has become an instrument of its own instruments: it adores these images. It's against the danger of such an idolatry, of an imagination which has become an intensified alienation, that writing was invented. Historically speaking, iconoclasm is the theoretical response against

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[14] "… [ich] glaube … nicht das Menschbilder aufeinanderfolgen, wie Sandwiches, sondern dass sie ineinandergreifen, und dass alle vorangegangene Menschenbilder in uns gegenwärtig sind. Diese Gleichzeitigkeit der Vergangenheit ist ja, glaube ich, ein wichtiger Aspekt des sogenannten post-historischen Bewusstseins." My transcription and translation from the lecture of 19 November 1991 entitled *Telematik. Verbündelung oder Venetzung?* (Telematics. Agglomeration or Networking?), at the Swiss Gottlieb Duttweiler Institute (GDI).

the madness of idolatry.[15]

According to this dialectic history, the original sense of writing was determined by the need to limit the magic power of images, in case they could not reflect the world anymore as true vectors of signification. Flusser, at this point, makes no difference between the images produced during prehistoric times, like in Lascaux, and the images produced in modern times like the tourist maps of cities or highways. Both are seen as orientation tools and both, as well as the "techno-images"[16] produced by the virtual world, were always endangered by their inner dialectic to become "opaque", in other words, senseless like hallucinations. The medium has become not only the message, but the image produced by these media has become the only true world. But in Flusser's post-historical worldview, this was part of the same process, or at least, the risk of man becoming the instrument of his instruments was part of the equation of history.

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[15] Vilém Flusser, *L'Iconoclastie*, in : Lire l'image, dirigé par Alexandre Bonnier, Centre d'Études et de Recherches Architecturales, Paris, 1979, pp. 57-69: "L'imagination est une méthode pour dépasser l'aliénation, pour s'orienter dans le monde perdu. Une méthode pour pouvoir chasser, (Lascaux), faire du tourisme, (Michelin), et prévoir le fur, (projections). Mais l'imagination peut s'intervertir dialectiquement et devenir hallucination. Les images qui résultent d'une telle imagination intervertie ne sont plus des médiations avec le monde, mais au contraire des surfaces opaques qui cachent le monde. Ses vecteurs de signification sont retournés, et ils ne montrent plus le monde mais le producteur de l'image. Ses image ne sont plus des instruments d'orientation, mais l'homme devient instrument de ses propres instrumentes: il adore ses images. C'est contre le danger d'une telle idolâtrie, d'une imagination devenue aliénation intensifiée, l'écriture a été inventée. L'histoire en tant qu'iconoclastie est une théorie contre la folie de d'idolâtrie" (pp. 61-62). My translation. The text was originally published in Portuguese, in: Cavalo Azul, Sãop Paulo, No. 8, May/June, 1979, pp. 78-84. A German version, translated by Flusser himself and slightly different, was made available for the public with the title *Ikonoklastie*, in: *Vom Begriff zum Bild. Mendienkultur nach Vilém Flusser* (Kommunikation und Kultur), hrsg. von Michael Hanke und Steffi Winkler, Marburg, Tectum, 2013, pp. 19-28: „Imagination wird dann gesteigerte Alienation, und der Mensch wird Instrument seiner eigenen Instrumente: er betet die Lascaux-Bilder an, und die Michelin-Karten, und die Projektionen. Gegen eine solche opak gewordene imaginäre Welt, gegen einen solchen Wahnsinn einer halluzinatorischen Imagination, als Rettungsversuch aus dem sich schließenden Kerker sich selbst bedeutender Bilder, ist die Schrift erfunden worden. Ikonoklastie ist Therapie gegen idolatrischen Wahnsinn."

[16] Flusser, *op. cit.*, 1979, p. 66.

On the contrary, Illich felt the inner contradiction of the new beginning of this technogenic era as a brave new world, rebuilt on the ashes of Old Europe. What was emerging, he felt, was more like a *Golem* than a *New-Adam*, and this new Golem-like technogenic anti-world was, for him, a real *Absurdistan*. In an interview in 2001, shortly before his death in December 2002, Illich summarized his intellectual effort:

> If there is a reason for me to understand the rules by which this Absurdistan, in which we all live, works, it is because I and my friends want to know where we are NOT involved. [We want to understand] how to avoid that our souls, our senses, and our inner world are influenced.[17]

Illich was not a dream-walker or a backward-looking romantic. He feared the disincarnating abstraction of a new way of thinking for he knew that "we stand on soil, not on Earth. From soil we come, and to the soil we bequeath our excrements and remains."[18] At the same time, he was ready to acknowledge "sadly, but without nostalgia…the pastness of the past."[19] Illich knew that the epoch in which he was living had lost the heaven above, and he worried that it was also losing the firm ground, the soil, the humus on which humans had always lived and died. Technological advances, masked as progress, were creating an "absurd" bubble in which the senses atrophied. This new realm of Absurdistan was not Flusser's *Bodenlosigkeit*: it went beyond. Illich wanted to unshackle thought to clean our “souls, senses and inner worlds” from the cold breath of *Unsinn*, of the Senselessness, of the demonic *Sinnesverlust*, the loss of human-connecting senses.

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[17] "Wenn es einen Grund für mich gibt, die Regeln zu verstehen, unter denen dieses Absurdistan, in dem wir leben, funktioniert, dann darum, weil ich und auch meine Freunde wissen möchten, wo wir NICHT mittun. Wodurch wir unsere Seele, unsere Wahrnehmung, unsere innere Welt nicht beeinflussen lassen". Ivan Illich, *Frühstück mit Ivan Illich*. Artikel erschienen in: taz Nr. 6509 vom 30.7.2001, Seite 13-14, 826 TAZ-Bericht von Gabriele Goettle.

[18] *Declaration on Soil*. A joint statement, drafted in Hebenshausen, Germany, December 6, 1990, in collaboration with Sigmar Groeneveld, Lee Hoinacki, and other friends.

[19] Ivi.

In his 1992 written letter to Helmut Becker, Illich points out again, how the world in which he lived has become unnatural and absurd, how as a very young boy he felt the “disembedding (*Ausbettung*) of the flesh from the warp and weft of history.” And this *Ausbettung* of the living Flesh was perceived as an ontological rupture in the framework of the world. And this rupture was symbolized by evoking the historical decision of the Nazis to “gas all fools in the Reich.” In other words, the harmonic cosmos where reason could co-exist with foolishness because foolishness was still seen as the “dark and unseen side” of universal wisdom had ceased to exist. The original nature of man was mutilated, and for Illich, this mutilation was far away from being completed. In this letter, he continues:

> Genocide and Human Genome-Project; the death of the forests and hydroponics; heart transplants and medicide on insurance—these all are equally tasteless, without smell, impalpable, and un-worldly. We, who are just old enough and yet young enough to have lived through the end of Nature, the end of a world proportionate to the senses, should be able to die like no one else.[20]

The English translation doesn’t quote a central passage: “Die Adventsfeier um die Erlanger Leiche zelebriert die Bodenlosigkeit des weltlosen Unmenschen” (the advent-festivity around the dead body of the Elanger-woman celebrates the groundlessness of the worldless unhuman being). Here Illich recalls the media event that took place in Erlangen in 1992, where a brain-dead pregnant woman was held in intensive care for many weeks to allow her unborn fetus to survive and to eventually be brought into the world. The fetus did not survive. For Illich, this was nothing but a pure expression of *natura alienata*, something natural made unnatural.

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[20] Ivan Illich, *op. cit.*, 1993, S. 76-79: “Genozid und Genomprojekt; Waldsterben und Hydroponik; Herztausch und versichertes Medizid sind gleichmässig geschmacklos, geruchlos, unfassbar und unweltlich. Die Adventsfeier um die Erlanger Leiche zelebriert die Bodenlosigkeit des weltlosen Unmenschen. Wir, die wir gerade alt genug sind, und jung genug, um das Ende der Natur, der den Sinnen entsprechenden Welt, erlebt zu haben, sollten, wie kaum andere, sterben können.” I quote here from the English translation made by Muska Nagel and Barbara Duden.

For Flusser the *Bodenlosigkeit*, the absence of firm ground was a historic event, an apocalyptic one, but for him that disaster could still be undone by fostering a new awareness of the upcoming technological possibilities. Illich's *Bodenlosigkeit*, on the contrary, stated the undeniable fact that humanity was turning unhuman, that the ground of very human existence had turned into a void, its *humus* had turned un-human, becoming *natura alienata*.

Illich's worldview is open to the awareness that "progress" has a high price that might include the human as such. The difference between Illich's view and Flusser's future-orientated worldview is evident in their differing ideas about the *custodia oculorum*, the disposition to protect our eyes from the illusions of the world. In an unpublished note, Flusser writes:

> The world of images which bathes us does not only press against us. It is also the result of our own discrimination between the images that approach us. It is we who are responsible, in part, for visual pollution. We have only to shut our eyes to shut those images out which we feel that they pollute us. But such a shutting of eyes, such a blinking which permits some images to be seen and others not, is not counter-vision […] Counter-vision intends to see how we are related to things, how we give meaning to them. And, of course, how, thus having provided the things with a specific meaning, we then change them. In sum: the intention of counter-vision is to see our being-

> in-the-world, not the world itself. Therefore counter-vision is "abstract," in the sense of having its attention abstracted from the things of the world.[21]

Here Flusser realizes that man-created imagery can be a "visual pollution" for our minds, but then he analyzes and describes the functioning structures of the technogenic gaze, which he calls "counter-vision." Counter-vision reveals our relations with the world but not the world itself, and by showing these relations we are aware of ourselves, but in an abstract and disrupted way. In counter-vision the human relationships get trapped in the network of abstraction.

For Illich, this would exactly correspond to the *corruptio optimi.*[22] If Flusser pleaded for a new conscious use of the technogenic world, Illich took a more anarchic but reflective path, as he recalls in the posthumous book of essays titled *Le perte des sens* from 2004:

> I plead for a rebirth of ascetic practices to keep alive our senses, in the lands devastated by the 'show', in the midst of overwhelming information, perpetual advice, intensive diagnostics, therapeutic management, the invasion of counselors, terminal care, and breathtaking speed. [23]

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[21] Vilé Flusser, *Counter-vision*, in: *Flusser Studies*, Vol. 13, May 2013, in: Flusserstudies.net Archive. The paper is a typescript, made of two dense-typed pages.

[22] Cfr. Ivan Illich, in: David Cayley, *Ivan Illich in Conversation*, Toronto, Anansi, ed. 2007, p. 213, p. 242.

[23] Ivan Illich, *Le perte des sens*, traduit par Pierre-Emmanule Dauzat, Fayard, janvier 2004: "Je plaide pour une renaissance des pratiques ascétiques, pour maintenir vivants nos sens, dans les terres dévastées par le «show», au milieu des informations écrasantes, des conseils à perpétuité, du diagnostic intensif, de la gestion thérapeutique, de l'invasion des conseillers, des soins terminaux, de la vitesse qui coupe le souffle" (préface); an italian edition is also present : La perdita dei sensi, traduzione di Giannozzo Pucci, Libreria Editrice Fiorentina, 2009: "Mi batto per una rinascita delle pratiche ascetiche, che tengono vivi in nostri sensi, nelle terre devastate dallo 'show', in mezzo a informazioni schiaccianti, all'invasione si consiglieri, alle cure terminali, e alla velocità che toglie il respiro" (p. 11).

Illich's hope was not directed toward a new religion in technology. Unlike Flusser, who preferred to analyze rather than criticize the new order of things, Illich aimed toward incarnated human relationships. For him, friendship was the only true human *Heimat*, the only real *patria coelestis*, the new-old heaven embracing this worldly and earthy gift, called *conditio humana*. The key formula of this human-divine friendship can be found in *ABC: The Alphabetization of the Popular Mind*.[24] Right at the beginning Illich quotes a letter of Hugo of Saint Victor, a twelfth-century cleric, who kindly and softly whispers in our hearts:

> I know for sure that *love never fails* (1 Cor., 13:8). I was wandering around like a pilgrim, and I came to you in a foreign country; and it was almost not foreign to me, because I found friends there: but I don't know if I made [them friends], or if they made me [their friend]."[25]

The comparison of these two remarkable thinkers should not end up in an *aut-aut*. It's not the time to choose one side or the other, but the time to choose to be at home in an absurd world. Italo Calvino, an Italian writer whom Illich recalled quite often, once said:

> The hell of the living is not something that will be. If there is one, it is what is already here, the hell we live in every day, that we make by being together. There are two ways to escape suffering it. The first is easy for many: accept the hell and become such a part of it that you can no longer see it. The second is risky and demands constant vigilance and apprehension: seek and learn to recognize who and

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[24] Illich, Sanders, *op. cit.*, 1988, epigraph.

[25] "… scio plane quod charitas nunquam excidit. Peregre profectus eram, et veni ad vos in terram alienam; et quasi aliena non erat, quoniam inveni amicos ibi: sed nescio an prius fecerim, an factus sim" In: Patrologia Latina, Paris, Migne, 1854, Vol. 176, p. 1011 A. See Illich's translation in *In the Vineyard of the Text*, p.26-7, fn. 53.

> what, in the midst of hell, are not hell, then make them endure, give them space.[26]

Here we can find the very essence of an Illichian answer to the *Sinnesverlust* of the world: to recognize "who and what, in the midst of hell, are not hell" and make this endure by giving to it its own "space," a place to dwell and taste the sense of life.

On the other hand, Flusser's analysis can help us to gain more consciousness about this "hell." As a thought-experiment, I would suggest what Calvino was to Illich, Machiavelli could be for Flusser, as when the great Florentine in a letter on 17 May 1521 to a friend, Francesco Guicciardini said "I believe that this should be the true way how to go to Paradise: to recognize the path to Hell and avoid it" (*io credo che questo sarebbe il vero modo ad andare in Paradiso: inparare la via dello Inferno per fuggirla*)."[27]

If Illich-Calvino encourages us to acknowledge the fact that the world is the real hell and, at the same time, to recognize that we all can choose for ourselves the non-hellish elements of this hell, so Machiavelli-Flusser inspires us to study this hell to avoid it. Both are answers to the same existential problem, and both are true.

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[26] Italo Calvino, *Le città invisibili*, Torino, Einaudi, 1972: "L'inferno dei viventi non è qualcosa che sarà; se ce n'è uno, è quello che è già qui, l'inferno che abitiamo tutti i giorni, che formiamo stando insieme. Due modi ci sono per non soffrirne. Il primo riesce facile a molti: accettare l'inferno e diventarne parte fino al punto di non vederlo più. Il secondo è rischioso ed esige attenzione e apprendimento continui: cercare e saper riconoscere chi e cosa, in mezzo all'inferno, non è inferno, e farlo durare, e dargli spazio"; Engl. Edition: *Invisible Cities*, trans. by William Weaver, London, Secker and Warburg, 1974.

[27] Niccolò Machiavelli, *Opere: Lettere*, Torino, UTET, 1984, Vol. 3, p. 520. My translation.

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Living together

by Jose Antonio Ullate

Although we may not personally know the history of political philosophy, that does not prevent the ideas of past thinkers from permeating our understanding of life in common. Here, "permeating" means to infuse the collective imagination, attitudes, expectations, and even hopes, fixing the limits of what we consider desirable, what we take as unalterable, and what we think is amenable to change.

Why do human beings live together? What lies at the root of the human proclivity to form families, groups, societies, and, in particular, political communities? We rarely stop to reflect on this question because it is the presupposed and unexamined lens through which we look at our lives. Many waters have carried the silt that forms the sediment of our perception of life in common. But, from the point of view of intellectual history, we can reduce them to three main currents. The first stream justifies living together as the lesser evil that is necessary to avoid the greater evil consequences of selfishness resulting from sin.[1] The second current of thought does not consider our inclination towards society as a form of evil, but rather a natural proclivity that originates in a deprivation: the unviable condition of humans to be self-sufficient, which turns them into beings constitutively *in need*, a need that is only satisfied in submission

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[1] The Catholic and generally pre-Chalcedonian interpretation of original sin is that it wounded our nature, but it didn't corrupt it. Thus, our nature after original sin remains good, though subjected to adverse conditions that make it practically impossible to reach its end without help. For political Augustianism, the adverse conditions that incline us to sin constitute the basis of our incorporation into political life.

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to social life. The third train of thought is owed to Aristotle of Stagira, who does not think that social life is either a lesser evil or necessitated by neediness. Instead, he thought the inclination to political life reflected man's natural appetite to live together with others.

Thus, the three historically conditioned ways of perceiving our living together are society as a preventive punishment, society as a remedy for a radical lack, and society as a desired way of living. Although these three visions are intellectually irreducible to each other, they appear to us in a mixed form because, for us, they are not theoretical postulates but part of the cultural strata that shape our perceptions. It is not strange that we accept that life in common is a necessity we endure because the alternative would be more fearsome, while simultaneously feeling that, since without society we would not have been even physically viable, our relationship to it is marked by debt, if not guilt. Finally, these two acknowledgments may not exclude a certain kind of nostalgia for a life in common chosen for the pure pleasure of being together.

In the short space of this article, I will only address the history of the main and profound discrepancies between two of these matrices of Western cultural thought; those that consider life in common as rooted in something natural. However, in them, "natural" means dramatically different things. In this examination of the history of our perceptions, I do not look back with a moralizing purpose. Rather, I try to understand the origin of some anxieties in our way of looking at life in common, whether it be friendship or politics. For the sake of brevity, I will focus on Aristotle and Thomas Aquinas (who draws on Plato via Avicenna) to contrast the two ways of naturalizing living together.

From "homo appetitivus" to "homo miserabilis": the radical change in the origin of politics

Aristotle decides to carry out (or continue publicly) his research on ethics and politics when he is at the peak of his prestige. He is a Macedonian of around fifty years old. He ends his honorary stay at Pella's court. He is a free man, recognized and respected throughout *Hellas*, looking towards the last and most fruitful stage of his intellectual activity. Almost any Greek city would have been honored by the presence of the great philosopher. Where will he go?

During the summer of 338 BC, the alliance of Greek *poleis* led by Athens and Tebe had suffered a terrible and humiliating defeat at the hands of Philip II's armies. In a single night, the Macedonians executed about a thousand Athenian citizens and soldiers. The Macedonian *hegemon* imposed an ignominious peace on Athens. The atmosphere in the Attic *polis* was then intensely anti-Macedonian. Two or three years after that shameful defeat, Aristotle chose Athens as the place from which to undertake his most ambitious investigations, the most unlikely place of all, because the infuriated and resentful Athenians were least welcoming to Macedonians, even to one of his august reputation.

"Il maestro di color che sanno" (Inf., IV 131) repeats in both the *Nicomachean Ethics* and *Eudememian Ethics* that he does not investigate practical things to know "what good is," but to become good himself. Philosophizing about morality and politics, he says, is a way of carrying out ethical and political action.[2]

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[2] NE 1094b 11: "Our method of inquiry (*methodos*) seeks the good of these things, since it is a sort of politics (*politikê*)"; NE 1105a 11–12: "... So that is also why our entire work, both as a contribution to virtue and as a contribution to politics..." Aristotle has declared that he is not investigating to know what is good but to become good himself. You cannot truly investigate these things if you don't get your own life involved in it. It is particularly important to note that, for him, this involvement is not achieved by reading books (NE 1103b 23–25); thus, the book is only a support for a serious work of reflection

Men have always organized themselves in institutions of a social-military nature, before and after Aristotle. But none before him had named this common inclination "politics" or inserted it into the core of ethics.[3] His work will only find its sustained readership fifteen centuries later, with the Western reception of William of Moerbeke's translation, but that reception will carry within it a distortion that has accompanied it since. The first great Western commentator on Aristotle's politics is Thomas Aquinas. His unfinished commentary on the *Politics* and, above all, his "*De regimine principum*" (or *De Regno*) show the deep admiration of the saint towards the Stagirite. The unquestionable prestige of Aquinas has however contributed to dramatically distorting Aristotle's view of the *conspiratio* that is expressive of the good life. Aquinas profusely uses Aristotelian "political" language, but only by inaugurating a radical disfigurement of its meaning. Accordingly, a misrepresentation that could have been, in the beginning, a minor deviation from Aristotle leads to a major misdirection in the conclusions on the reasons for living together with others.[4]

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and shared life. On this point, a matter that turns everything upside down is involved: In reality, Aristotle only speaks of institutional politics in the polis *in first navigation*. The deeper matter and the true reason for his investigation is how one acts in virtue of the common *telos* when *the polis no longer exists*. That is, he describes in the first instance politics as we, more or less, have understood it, but the deeper meaning (*second navigation*) is not that of the *polis*, but that of the band of foreign friends who make the search for truth their conspiracy.

[3] Among many instances, see: "Since we see every city to be a sort of community, and every community to be formed for the sake of some good (for everyone does every action for the sake of what seems to be good), clearly, then, while every community aims at some good, the community that has the most control of all, and encompasses all the others, aims both at the good that has the most control of all and does so to the highest degree. And this community is the one called a city, the community that is political" (Politics, *incipit*, 1252a 1-6); A political philosopher, "is the architectonic craftsman of the end to which we look in calling each thing unconditionally bad or good" (NE 1152b1); "The ruler must have 'complete virtue of character. For his function is unconditionally that of an architectonic craftsman, and his reason is an architectonic craftsman'" (Politics 1260a 16). (my translations).

[4] "In authors such as Thomas Aquinas, John of Paris, James of Viterbo and Dante

Aristotle insists repeatedly on the radical difference between the household on the one hand and the *polis* on the other. The *raison d'être* for the house and the village is to ensure *mere life*—the physical reproduction of its members, while the proper form of the *polis* is very different —to promote good and virtuous living among its participants. In Aristotle's scheme, the proportionate set of families and villages makes up the material (*hyle*) of the *polis.*[5]

Although Thomas addresses the distinction between matter and form in the *polis* in his commentary on Aristotle's books on politics, he manages to do so without the specific use that the Stagirite makes of these two principles. Crucially, Thomas translates Aristotle's *zoon politikon* (political animal) indifferently as both *animal politicum* and *animal sociale.*[6] This means that for Thomas, *politicum* is strictly equivalent to *sociale*, blurring the formal difference between the political

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Alighieri, a double and common characteristic is verified: on the one hand, they preserve the Aristotelian language and argumentative scheme about the origin of the political order, as well as – although already partially devalued – the conception of politics as the realization of a virtuous life; On the other hand, all of them tend, in one way or another, to dilute the qualitative distinction between the oíkos and the *pólis* –and, a fortiori, between the economy and politics– on which the theory presented at the very beginning of the *Libri Politicorum* was based. In these authors, the decisive break between ethics and politics does not occur, certainly, but the progressive identification of politics and economics does occur, in the form of the identity of the *civitas* with the *societas*. This identification would give rise, between the 17th and 18th centuries, to the birth of a new discipline, political economy, which would end up absorbing the specificity of the political in the increasingly ubiquitous sphere of economics" (Mariano Pérez Carrasco, "Animal domesticum et civile: Economic order and political order in Thomas Aquinas, Jacobo de Viterbo, Juan Quidort and Dante Alighieri." *Revista Española de Filosofía Medieval*, 27/1, 2020, p. 48).

[5] *Inter alia*: "The cause, though, of their [of the household] being so disposed is that what they take seriously is living, not living well" (1257b40); "They do not do these things only for the sake of living, but more for the sake of living well" (1280a 30); "The city is the community in living well" (1280b 30).

[6] "…later readers might question whether Aquinas' indifferent use of *animal politicum* and *animal sociale* as translations for Aristotle's *zoon politikon* did not miss the essential point that Aristotle was making: man is a political being, a polis dweller, and not merely a gregarious or a social animal" (James Schmidt, "A Raven with a Halo: The Translations of Aristotle's Politics," *History of Political Thought*, Summer 1986, Vol. 7, No. 2, p. 312).

community and the lower natural communities.[7] The reverse of this confusion has even more dramatic consequences. At the very beginning of his *De regno*, Thomas questions the reason that naturally pushes men to form political communities (which, as we have already seen, are not distinguished from any other social community). The friar affirms that what is characteristic of man is to be a "social and political animal," because of "the *needs* that man naturally has."[8] That is, for Aquinas, the inclination to live in a political (or social) community is natural to the extent that human needs are natural.

Here I cannot overlook one fundamental and astonishing fact. Although the Thomist foundation of living together rests on the privation inherent in human nature, we notice that the Dominican's position hides, in itself, many more latent tensions than that of the Macedonian. Thomas shares with the Stagirite his affirmative vision of life in common:

> That which is proper to a thing and to which it is most inclined is that which is most becoming to it from itself; wherefore every living thing gives proof of its life by that operation which is most proper to it, and to which it is most inclined. Thus, the life of plants is said to consist in

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[7] This operation constitutes one of the main intellectual roots of the modern distinction between *private* and *public* life. By making the specific difference between social inclination and political inclination inconsistent, the *vita socialis* absorbs all the realm of interhuman activity. In turn, this means that the *vita politica* is dissolved, and the *vita socialis* is subdivided into *vita privata* and *vita publica*. The disorder in our perceptions is abysmal: we associate political life with public life, when, in reality, public life is characterized by being just a pure framework of coexistence for the pursuit of the only ends that are recognized, the private ones (See Hannah Arendt, *The Human Condition*. Chicago: The University of Chicago Press, 1998. Section II, The Public and the Private Realm. pp. 22-78).

[8] "Naturale autem est homini ut sit animal sociale et politicum, in multitudine vivirs, magis etiam quam omnia alia animalia, quod quidem naturalis necessitas declarat." Sancti Thomae of Aquinas, *De regno ad regem Cypri*. Liber 1, Caput 1, in https://www.corpusthomisticum.org/orp.html). Also, in the *Summa Theologiae,* Thomas declares that the foundation of life in common is not, as in Aristotle, an affirmative call, a desire to enter into an operational and celebratory relationship with others, but rather a radical and essentially negative escape from a state of inadequacy (S. Th. I, q. 96, a. 4, *resp*).

> nourishment and generation; the life of animals in sensation and movement; and the life of men in their understanding and acting according to reason. Wherefore also in men the life of every man would seem to be that wherein he delights most, and on which he is most intent; thus, especially does he wish to associate with his friends (Ethic. ix, 12).[9]

Although he notes this joyful interior affection (*id in quo maxime delectatur, et cui maxime intendit*!), our friar forgets this inclination and places the fulcrum of a life in common on the precariousness of man's means, on the perception of a lack or inability. The ordeal of Saint Thomas is that even if he spontaneously uses a sunny language (man wishes to associate with his friends because that is where he delights most), it is only an empty homage because the ultimate reason that causes us to live together is fear and need, not celebration. This is not the place to fully develop the reasons that move him to take the gloomier path. The point is that the idea of human nature that Aquinas paints could not be further from that of Aristotle.

The Macedonian philosopher formally distinguishes between the natural inclination to social life and the natural inclination to political life. Crucially, Aristotle does not accept that even the most basic unit of social life—the household— has its origin in the perception of a need or deprivation. Instead, the household is grounded in a natural impulse or drive, comparable to any other living being, to procreate. As he says about living together: "It is not by deliberate choice (*prohairesis*)" but by the urge to leave behind one like oneself.[10] For the Macedonian, purely "economic" life is not based on the perceived advantage of associating to satisfy needs. Furthermore, Aristotle says that while social life expresses the drive to reproduce, political life is the desire to live together according to virtue, for the good life. Man is inclined to enter society through a natural appetite or desire (*homo appetitivus*), prior to all deliberation.[11] The invitation to political life is a conscious attraction towards the virtuous life (*homo virtuosus*) and is, in itself, alien to necessity. Even when one does not need the assistance of others, one keeps being attracted to the good life, to the life of friendship![12]

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[9] Thomas Aquinas, *Summa Theologiae*, II-IIae, q. 179, a.1, *respondeo*.

[10] "Those who are incapable of existing without each other necessarily form a couple, as female and male do for the sake of procreation (they do not do so from deliberate choice, but, like other animals and plants, because the urge to leave behind something of

Thomas's way of looking at social and political life is decisively different from Aristotle's. Thomas dissolves the political inclination into a generically social one. Thomas removes natural impulse, inclination, or proclivity to replace it with lack, inability, or need. For Thomas, the deliberate choice to group together in a protective community is sparked by the awareness of a lack or inability—a need—which is first imputed and only then experienced.[13] Indeed, as Pérez Carrasco explains, if the perception of needs lies at the origin of social life,

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the same sort as themselves is natural), and as what rules by nature and what is by nature ruled do for the sake of preservation" (*Pol*. 1252a 25-30). Note that this natural impulse that generates social life for Aristotle is twofold: not only reproduction but also command and obedience for mutual benefit.

[11] It is important to note, however, that for Aristotle, although the natural appetites that incline us towards the elementary forms of social life (couple, family, village) are affirmative and not deliberate, the naturalness of the *bios politikos*, the good life, is affirmative (the inclination towards the good), but it is also elective, freely chosen (see above).

[12] "In our first discussions […] it was also said that a human being is by nature a political animal. That is why, even when they do not need each other's assistance, people desire no less to live together" (Pol. 1278b 18-22).

[13] As Marianne Gronemeyer puts it, "The needy person […] is not the master of his or her neediness. The latter is much more the result of a comparison with a foreign normality, which is effectively declared to be mandatory. One becomes needy on account of a diagnosis–I decide when you are needy. Help allocated to a needy person is a transformative intervention" (Wolfgang Sach, ed. *The Development Dictionary: A Guide to Knowledge as Power*. London: Zed Books, 2010, p. 70)

then it could not have its roots in the subject.[14] Thus, Thomas Aquinas consecrates the idea that will settle at the heart of Western "political" thought: that the "naturalness" of politics (or the family, which is only a matter of degree) rests on the *neediness* of man.[15] In a very true sense, Thomas coins not the name, but the idea of "homo miserabilis."[16] This idea, radically absent from Aristotle's thought, has become the starting point for political theories in modernity.

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[14] "If the cause of political association were economic, then the political community would have an external origin, based on the decision of individuals to unite to form a *societas*; if, on the contrary, the first cause of the association were biological–as Aristotle maintains–then the political community would have an internal origin, based on an instinctive impulse, which does not depend on the decision of individuals" (Mariano Pérez Carrasco, "Animal domesticum et civile: Economic order and political order in Thomas Aquinas, Jacobo de Viterbo, Juan Quidort and Dante Alighieri." *Revista Española de Filosofía Medieval*, 27/1 [2020], Page 51). "In authors such as Thomas Aquinas, John of Paris, James of Viterbo and Dante Alighieri, a double and common characteristic is verified: on the one hand, they preserve the Aristotelian language and argumentative scheme about the origin of the political order, as well as–although already partially devalued—the conception of politics as the realization of a virtuous life; On the other hand, all of them tend, in one way or another, to dilute the qualitative distinction between the *oíkos* and the *pólis*– and, a fortiori, between the economy and politics– on which the theory presented at the very beginning was based. In these authors, the decisive break between ethics and politics does not occur, certainly, but the progressive identification of politics and economics does occur, in the form of the identity of the *civitas* with the *societas*. This identification would give rise, between the 17th and 18th centuries, to the birth of a new discipline, political economy, which would end up absorbing the specificity of the political in the increasingly ubiquitous sphere of economics" (*Id*. Page 48).

[15] "Thomas Aquinas, in his *De regno*, introduced in this regard the non-Aristotelian idea of man conceived as an animal that has needs. Unlike other animals, nature does not immediately offer him food, protection from the cold, weapons of defense or attack for his survival: to obtain all this, man is forced to associate with other men. This topic is absent from Thomas Aquinas's commentary on *Politics*, and for good reason: it is not easy to combine this conception with that of Aristotle! (Gianfranco Fioravanti, "La réception de la Politique d'Aristote au Moyen Age tardif". In Yves Charles Zarka (sous la direction de), Aspects de lapensae médievale dans la philosophie politique moderne. Paris: Presses Universitaires de France, 1999. Page 19). "Tommaso, infatti, nel De regno, have introduced a questo proposito a concetto non present in the Aristotelian text: quello dell'uomo come 'animal di bisogni'" (Gianfranco Fioravanti, "Aristotelian 'politics' in the Middle Ages: Linee di una ricezione" *Rivista di Storia della Filosofia*, 1997, Vol. 52, No. 1, pp. "Abbiamo infatti una 'naturalità' che sembra fondarsi su di una mancanza ed insufficienza della natura umana" (p. 26).

[16] In 1992, Ivan Illich described *homo miserabilis* as a mutation of *homo oeconomicus*, the protagonist of scarcity (Wolfgang Sach, op. cit., page 92). The *needy man* who is forced to enter society due to his deprivation, not his impulses, as Thomas describes him, establishes the starting point that leads to the appearance of that *homo miserabilis*.

"Civitas vel regnum": the drive for the vanishing of matter in politics

We can now understand why, despite Thomas' effort in his commentary on politics to follow Aristotle's reasoning, his examination of the combination of matter and form in the *polis* is inconsistent. Whereas for Aristotle there is an interplay between the matter and form of the political, for Thomas, the political is only a matter of form.

Thomas Aquinas starts from two axial statements that are impossible to reconcile with the Aristotelian view of politics:

> a. The radically *economic* character (*oikos-nomos*) of all social life. Although he repeats the Aristotelian distinction between the economic and political order,[17] he is trapped by his identification of social life with political life, which inevitably "economizes" all "political" life.[18] The center of all socio-political life will be the satisfaction of needs and not a radical inclination towards living together, freely supported by others. Thomas will continue talking about the good life as the proper goal of politics, but he will identify it with an abstract "common good" indiscernible from the directive action of the ruler, particularly through the law.[19] The law absorbs (and eclipses) the character of common consensus or

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[17] *In Libros Politicorum* II 15: "Quod quidam dicebant tamquam nihil differret domus a civitate nisi magnitude ine et parvitate; ita quod magna domus sit parva civitas, et e converso; quod ex sequentibus patebit esse falsum."

[18] See also, Hannah Arendt, *The Human Condition*. (Chicago: The University of Chicago Press, 1998. Part II-The Public and the Private Realm, pages 22 and ss).

[19] In Aristotle, τὸ συμφέρον means, indistinctly, the common good or the common advantage.

> conspiracy.[20] Hence his hesitation: he insists on the difference between the king and the father of a family, but he cannot avoid saying that, in a certain sense, the king is the father of the multitude.[21]
> b. The anthropological fatalism of *homo miserabilis* (apparently not directly linked to his faith in the dogma of original sin[22]), is incompatible with the joyful *conspiratio* of free men in pursuit of the good life.

Paraphrasing Augustine, these positions are as two radically diverse "loves" that constitute two different "cities" and two mutually unrecognizable "politics."[23]

When developing his vision of socio-political life, Thomas will continue to resort to the binomial matter/form, but for him, the matter of politics is reduced to being the physical support ("passively passive") of the only true purpose of politics, which is the management of the life of a multitude. For Thomas, as for medieval writers in general, *polis*, translated into Latin by Moerbeke as *civitas* (*city*), designates only the territory and the population governed by the same chief

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[20] Though significant, the influence of Aristotle's thought on Thomas's is not, however, the dominant one. Certainly, the main influence is that of St. Augustine, but in the political-legal aspects, the Roman jurists and Cicero were very authoritative for him. Quite eloquently, Cicero wrote: "What is a *civitas* if not a society united by laws?" (*The Republic*, I: ii: 4. Cf. James Schmidt, "A Raven with a Halo: The Translations of Aristotle's *Politics*." *History of Political Thought*, Summer 1986, 7, 2, p. 306.)

[21] The loss of the sense of proportion also entails, for Aquinas, the reduction of the common good to a mere idea, detached from the concrete flesh of the participants. There is no carnal proportion between an inhabitant of Kaliningrad and one of the Kuryl Islands, or between one of Anchorage and one of Tampa. Therefore, when speaking of a "political common good" among such two, we necessarily speak of an idea whose support is a law. On the other hand, the concept of a conspiracy for the good of the whole rests purely on carnal proportion, as Aristotle explicitly states.

[22] Thomas Aquinas will confront the peculiar dogmatic "pessimism" of the Franciscan schools, which made man's sociability depend on his fallen condition. For Thomas, even in the pre-lapsarian state the human being is a *being of needs*!

[23] "Fecerunt itaque civitates duas amores duo" (*De Civitate Dei*, l. XIV, c. XXVIII).

(*simpliciter rex*). For Thomas, *civitas* can be a fortress, a city, a province, or a kingdom. What gives *civitas* its form is that it is ruled by the same king or leader.[24] What gives unity to a multitude and a territory is being subject to the same governmental action, to the same king.

It is sufficient here to point out that Thomas does not share the ultimate meaning of the Aristotelian conception of politics. For him, the matter of politics is reduced to a pure arrangement of passive elements (population and territory) that acquire the status of a community of only one form: unified government exemplified by the law of the king. Accordingly, our friar does not assign to suitable matter any fundamental role for a good political life. He does not notice that the proper matter of the *polis* is not the result of government action, but rather the result of chance (or providence) and, therefore, is not the object of education and the fulfillment of obligations, but rather the object of the prayers of rulers and the people. From Aristotle's perspective, Thomas Aquinas destroys the materiality of the *polis*, by absorbing its proper and original scope into the realm of the form, that is, into the action of government. For Thomas, political science is exclusively a reflection on the forms of government and particularly on what he considers the most appropriate one, the monarchy.

We can be sure that a keen scholar like Thomas does not depart from Aristotle's authority on this fundamental point through carelessness or caprice. There is a long tradition of thought that identifies man's precarious condition and his inadequacy to survive alone as the cause of his incorporation into social life. The most authoritative starting point of this tradition is that of Plato. In the dialogue *Protagoras*, and through a peculiar version of the myth of Prometheus and Epimetheus, Plato explains how the exceptional precariousness of the human being pushes him toward society.[25] However, the corpus of Platonic dialogues, except for the *Timaeus*, was not yet accessible to medieval Christian scholars, and its influence could only be indirect. Until Thomas, Christian thinkers did not take into consideration the naturalness of "social" or "political" life. They considered it a mere *factum*, but following what has been called *political Augustinianism*, that fact had the character of a necessary evil. The dominant theological thought was that before the primordial fall of Adam and Eve, human nature did not need a community since the intelligence of individuals, subject to God, would perfectly govern their sensitive inclinations, thereby making the idea of government between men superfluous. This current, later headed by the Franciscan Duns Scotus in antithesis to Thomasian postulates, argued that the wound of sin introduced the disorder of passions, selfishness, and envy making the institution of power necessary to repress the destructive tendencies of concupiscence. The rulers were thus invested with the legitimacy of serving as God's ministers for the material aspects of life in common.[26] This is the cultural environment in which Aquinas was formed. The elements of this framework enjoyed great religious prestige that made any questioning difficult. The only probable precedent for the Thomistic solution is found in the respected Persian philosopher Avicenna, whose works had been translated into Latin a century earlier and whom Thomas knew in depth. Avicenna offers an interpretation of Aristotle that is heavily filtered by Neoplatonism, and it is he who introduces this Platonic insertion into Aristotle's (for example, in his *De Anima*, his *De Animalibus,* and his *Metaphysics).*[27]

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[24] "Qui perfection communitatem regit, id est civitatem vel provincialm, antonomastice rex vocatur; qui autem domum regit, non rex, sed paterfamilias dicitur. Habet tamen aliquam similarityinem regis, propter quam aliquando reges populorum patres vocantur. Ex dictis igitur patet, quod rex est qui unius multitudinem civitatis vel provinciale, et propter bonum commune, regit" (*De Regno*, l. 1, c. 1, *in fine*). As has been said, this equivalence is only apparent: in reality, the area par excellence of Tomasian "politics" is the "kingdom." Thomas dispels this identity between kingdom and city when he explains that the founder of a kingdom must search, within its territory, for the most suitable places to establish cities, villages and military fortresses ("Puta, si regnum instituendum sit, oportet providere quis locus aptus sit urbibus constituendis, quis villis, quis castris, ubi constituenda sint studia litterarum, ubi exercitia militum, ubi negotiatorum conventus, et sic de aliis quae perfectio regni requirit" (De Regno, l. 1, c. 14, *in fine*).

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[25] *Protagoras*, 320 a - 322 a.

[26] "Need I recall the notion and role of the secular arm, or the name 'exterior bishop' (eveque du dehors) often given to kings ...?" (Jacques Maritain, *Integral Humanism. Temporal and Spiritual Problems of a New Christendom*. Notre Dame: University of Notre Dame Press, 1973. p. 149).

It is interesting to note that Aristotle was perfectly aware of the doctrine of his teacher Plato on this subject and explicitly rejected it. In a famous passage of *De Partibus Animalium*, he recognizes the indeterminacy of the organs of the bodies of men, but far from deducing from this an ominous lack that fatally pushes humans into institutionalization, he understands it as a manifest sign of their superiority and self-determination![28]

By losing sight of the discrete but decisive role that Aristotle assigns to the matter of the *polis*, Thomas seeds an omission that, while almost imperceptible to him, is incompatible with the vision of the Stagirite. Thomas does not pay any attention to the fact that the *polis* and politics demand a proportion (*analogia*) and that the size of the population and the territory are not irrelevant but factors that must be adequate to the task. A territory and population that are too small cannot ensure the continuation of life. However, too large a territory and population prevent the characteristic conspiracy and co-responsibility of politics.

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[27] Cf. Irina Nanu, *La segunda Partida de Alfonso X el Sabio y la tradición de los* Especula principum [Doctoral dissertation. Universitat de Valencia. 2013]. Pages 247-248, where she also notes the possible influence of Alfarabi in that same sense and sets out how Thomas was persuaded of this doctrine from an early age, as is shown in various unequivocal passages of his *Summa contra Gentes*.

[28] *Parts of Animals*, 687 b-688 a. "If, for Plato, man needs to associate with other human beings in order to compensate for his defects and imperfections and to protect each other, from Aristotle's point of view, man's deficiencies are not in themselves sufficient for the establishment of a society, since, as he clarifies in the Politics, 'even when they do not need mutual help, men no less seek coexistence', and, if it is true that 'they are brought together by the common utility, insofar as each one has a share in the well-being', it is no less true that 'they also come together simply to live and constitute the political community'" (Irina Nanu, op. cit. page 241).

Thomas' take on political matters makes the good government by a king the exclusive concern of politics, which operates on and directs an inert raw material (population and territory.)[29] From now on, the question of politics will revolve around political forms, relegating the appropriate matter of politics to the formless quantity of territory and population that each king dominates. The loss of Aristotelian awareness of the significance of the matter of politics is such that our Saint will understand the expansion of territories and population, without any intrinsic limit, as a natural feature of kingdoms.

As I said in the beginning, men before and after Aristotle have been governed by modes of living together. Aristotle did not intend to prepare an instruction book for the ruler but rather to think with his friends about the concrete possibility of leading a good life.[30] Before and after Aristotle, rulers aspired to expand their domains and sometimes went so far as to forge empires, as did his student, Alexander. The idea of the *cosmopolis* represents the disintegration of all proportions wherein matter need no longer be suitable and functions merely as the pure passive support of form.

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[29] Having established a starting point for political life that is radically different from that of Aristotle, Aquinas' subsequent analysis of politics is riddled with contradiction. He insists on the active character of the participation of the "subjects" in the common good but, at the same time, leaves in the shadows that their previous constitution as participants is not active, but passive; it is not free but the fruit of necessity. In other words, that we are "subjects" of this or that "kingdom" is the result of two necessities: that of the original ineptitude of the human individual and that of the fatality of the power games of the different kings. An example of this original passivity: within any Neapolitan family, in less than a century and a half (1712-1861), its members went from being subjects of the King of Castile (and of Naples), to being subjects of the Emperor of Austria, to being subjects of a King of Naples separated from Castile, to being part of the brief Parthenopean Republic (a subsidiary of the revolutionary French Republic), to once again obeying the King of Naples, who, shortly afterwards, would merge his two domains and become King of the two Sicilies, and finally, to become part of the Kingdom of Italy. Theoretically, at each of these changes the people were stipulated to have an "active" participation in the common good of a "new" kingdom.

[30] I will not dwell here on what is ultimately most important in Aristotle's political reflection, that is, the discovery of how the end of the good life can be achieved by a handful of foreigners (*metoikoi*) amidst disproportionate forms of government and social arrangements.

For Thomas, there was nothing self-contradictory in an ideal of a *cosmopolis*, if the legislation of that universal (*catholicus*) empire adjusted to the limits of Christian morality, as he understood it. Such blindness to proportion and ordered matter was already hegemonic in his time and continues to be so in ours. For instance, doctrines about *manifest destiny* exclude any notion of limit or intrinsic proportion in the population or the territory. We lack the good sense to understand the difficulties entailed by the current tendency to form supranational associations, such as the European Union, or to consolidate disproportionate nation-states. We lack the true *custodia oculorum*, the true care of the senses, which would allow us to notice that excess, even in politics, is always a sin of *hubris*—a sin that carries its own *nemesis*, the sadness of life.

consummata est commixtio, the mixing is complete

To understand ourselves and the world in which we live—not to judge the past—we have explored some aspects of the complicated relationship between the Aristotelian view of politics and the Thomasian one. Thomas was not an unconditional Aristotelian, nor was his *forma mentis*, his way of looking at things, Aristotelian. He sees in Aristotle a happy repertoire of discoveries that he can draw on for his own intellectual purposes.[31] However, beneath this surface of due theological orthodoxy, Thomas' work tends to show an undisguised admiration for and intellectual affinity with the intelligence of the Macedonian heathen.

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[31] *Summa Theologiae*, Ia, q. 84, a. 5 Whether the intellectual soul knows material things in the eternal types? Through the example of Augustine, he sets forth his own method: "As Augustine says (*De Doctr. Christ.* ii, 11): 'If those who are called philosophers said by chance anything that was true and consistent with our faith, we must claim it from them as from unjust possessors. For some of the doctrines of the heathens are spurious imitations or superstitious inventions, which we must be careful to avoid when we renounce the society of the heathens.' Consequently, whenever Augustine, who was imbued with the doctrines of the Platonists, found in their teaching anything consistent with faith, he adopt-

Why, then, would Thomas have departed so abruptly from Aristotle on the decisive question of the basis for the naturalness of social life? This departure is no banality. It is full of capital consequences. Was it not possible to preserve the Christian theological vision together with the luminous and affirmative vision of the origin of society in the desire for friendship? That is, was it not possible to preserve a celebratory vision of living together while emphasizing the difficulties that sin introduces into that dynamic? The truth is that Thomas' vision of the cause of our sociability stains our perception with a permanent sense of guilt, and it places before our eyes a debt that is impossible to cancel.[32] By placing our incapacity at the origin of our sociability, we are irremediably subordinated to the group, to the family, to the state. For that reason, we also internalize a gregarious fatalism, which makes it difficult for us to discern the excesses and disproportionate-

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ed it: and those things which he found contrary to faith he amended."

[32] In the *Summa Theologiae* (II-IIae, q.80) when discussing the parts of justice linked to its integrity, Thomas includes two virtues that share the feature that they place the subject in a permanent position of debtor. One of them is *pietas* (*eusebeia*), in which the obligation arises from having received a gift that we can never repay, since we can never repay what we have received from God, from our parents... and from the political community (fatherland, *patria*). The other one is *observantia* (respect, reverence), by which we must always bow in "a deference and honor rendered to those who excel in worth." In both cases, Thomas invokes the authority of Aristotle (NE 1163b 20 for piety; 1124b 5 for observance), together with that of the Roman Cicero. However, in the first case, Aristotle is referring to a purely moral and intrafamilial debt (sons are always ethical debtors of their parents, unable to reintroduce equality with them) or religious one, and in the second, to the ironic expectation of a great souled person, who knows that when a moral action is perfect, recognition from others adds nothing to it. Yet, Thomas promotes these virtues to the demands of justice that subjects are obliged to in the legal or public realm. Consequently, the condition of the permanently insolvent debtor that a son is to his father who gave him existence is extended to any member of a political community with respect to it. In Thomas, the 'citizen' owes a permanent and unpayable debt to the political society of which he is a part because he is in need of it. This blurs the specific Aristotelian difference between the political and the economic, with the result that all public life is absorbed by the unpolitical logic of *oikos*.

ness of the family, the community, or the state.

Thomas is not a pessimistic character and has a taste for celebration. But he is also a serious Christian and theologian, and he must reckon with a fact that is not present in Aristotle's vital horizon: the novelty inaugurated by *Emmanuel*, a God who sets up his tent among us.

Incarnation involves accepting the ambiguous nature of contingency and embracing the perennial possibility of misunderstanding. Incarnation means abandoning the security of the univocal word, which men attribute to the world of ideas, the supramundane, to the hyperspace uncontaminated by the flesh. The time inaugurated by the Incarnation is that of analogy. The link, the point of connection (*metaxu*, Simone Weil would say) between God and man, is now primarily the flesh of the son of man, prolonged in time.

Thomas Aquinas is a son of the church and of the church of his time. Political theology (*ante litteram*) required that the noble activity of life in common be ordered towards the ultimate supernatural end, *salus animarum*: the salvation of souls. Thomas departs from the natural impulses of Aristotle in his attempt to explain and acknowledge the aspect of participation and the leading role of human freedom in mundane life. His theological presuppositions require that the dissolving tendencies of wounded nature be controlled and that the conditions for the development of Christian life—understood primarily as conformity to certain duties—be ensured.

When Thomas places the unviability of the individual human being at the source of man's sociability, he has in mind his conception of the supernatural end. The truth is that Thomas casts a shadow of tragic consequences over life in common to ensure the constitution of society. Though Thomas also wants to incorporate a large part of Aristotle's social anthropology and his co-responsible vision of life in common, he sets in motion a hybrid device in which the two conceptions he intends to integrate are in perpetual civil war. Historically, this vision has mostly reinforced the condition of gregarious passivity that I have already pointed out.

The worldview of the Incarnation permanently cements the disparity between Aristotle's affirmative view of the origin of life in common and Thomas's negative one. Aristotle cannot imagine a promise of life that affects *all* men. The life achieved in the *polis* is not a universal invitation. Although the denominations are more symbolic than literal, for him neither slaves nor barbarians, nor merchants, nor manual workers—that is, most men and all women—enter into the dynamics of politics. In contrast, Thomas is a Christian for whom all men have been invited to a promise of life ("He is the propitiation for our sins: and not for ours only, *but also for the sins of the whole world*" 1 Jn 2,2). Again, this difference does not necessarily justify a negative view of life in common, but Thomas, like everyone else, is a child of his time and of his world: a strictly class-based, solidly hierarchical society is the model that the friar projects on the view of the entire universe.[33] For Thomas, the class-based and hierarchical perception of the macrocosm and the microcosm, together with the conviction that the temporal order must include everyone, necessarily leads to an understanding of life in common based on deprivation, on *man in need*.

Let us just point out that this explanation is unavoidable for Thomas' sociology, but it is not necessarily so from Thomas' theological premises. The order of the supernatural end (*beatitudo*) is beyond the reach of human forces, and, in this sense, man is a permanently dependent being. But submission to an orthodox temporal order cannot produce grace either, as Thomas perfectly knows! Thomas is a sincere believer, but for him, the force that compels each one to enter society is of a sociological and natural order. It also happens that this society has theological duties (public orthodoxy), but its fateful and original binding force does not lie in these sacred duties. As I have pointed out above, the supposition of original privation makes Thomas emphasize the *form* of political life, specifically the Christian public orthodoxy guaranteed by the laws. The consequence is the forgetfulness of the matter of politics (*hyle*), which, from now on, is always taken for granted.

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[33] Katherine Archibald, "The Concept of Social Hierarchy in the Writings of St. Thomas Aquinas." *The Historian*, Autumn, 1949, Vol. 12, No. 1, pp. 28-54

The pagan Aristotle fully understands that the form of life in common (*politeia*) is the strict responsibility of its members, both the rulers and the governed. They must all collaborate and mutually demand this collaboration. Aristotle has the good sense to notice that the quantity and quality of the population and the territory, and the good disposition of the neighbors are as essential as the form to the good of the *polis*. He calls these the "resources" (*jorêgia*: the "political resources," *politikê jorêgia*), the means, or simply, the "matter" (*hylê*) of the *polis*. In Book VII of *Politics*, Aristotle remarks on the "stuff" of which a *polis* is made:

> Therefore, in the first place, we must examine the sorts of hypotheses there should be concerning the city that is going to be constituted to be in accord with our prayers. The best constitution cannot come into existence without suitable equipment. That is why we should posit many things in advance, just as when we are praying, although none of them should be impossible. I mean, for example, the size of the citizenry and the territory. For just as other craftsmen —for example, a weaver or a shipbuilder— must also be supplied with matter suitable for the work, and the better the matter has been prepared, the nobler the product of their craft must be, so too a politician and legislator must be supplied with the proper matter in a suitable condition.[34]

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[34] Pol. 1325b-1326a. I follow the translation of C.D.C. Reeve, with slight modifications.

"Without a set of appropriate resources (commensurate: *simmetrou jorêgias*)," we cannot even consider forming the best regime for the *polis*. Thomas however has no appreciation for the importance of the appropriate matter of politics. He is concerned exclusively with the orthodoxy of the governance. From him on, Western political theorists will limit themselves to postulating "the best regime" (from medieval theorists to Hobbes, Locke, or Marx), while showing an eloquent indifference to this characteristic concern of any practical man. Unlike Aristotle's, all such theories of political regimes, whether left or right, are abstract theories, obsessively trying to appropriate, from the coldest abstraction, the heat of what is concrete and existing.

Aristotle speaks of the work of constituting a *polis* that conforms to our "prayers."[35] He integrates into his view the role of surprise, of what we cannot predispose. That is the true meaning of prayer understood in the Aristotelian way. Surprise, the unforeseeable, accompanies the entire experience of human action. Aristotle says that the ruler must "pray well," which means being bold in what one hopes for but being careful not to expect impossible things, that is, *impossible in the present.*[36] Aristotle knows that good fortune is essential to having the material resources necessary to carry out the *polis* and the good life in general. Thus, Aristotelian pagan prayer is a hopeful attitude towards the material resources of common life that are beyond our control, while Thomas' Christian prayer, in which rulers and ruled must be jointly involved, ignores the matter of the *polis* as such, to focus on its good government, its prosperity, and its tranquility.

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[35] Often, instead of "prayers," translators resort to the vague "wishes," which takes us even further away from the original meaning.

[36] Cf. *Politics* 1265a 16-17; 1325b 37-39. As I have noted, many translators refuse to render εὐχή for *prayer, orison*, and reduce it to its purely intentional aspect: *desires*. This distorts Aristotle's thinking on this point, losing all its richness. It is notorious that the Stagirite does not believe in a personal god who can attend to the requests of his faithful. However, the invocation to the god is an explicit recognition that what we desire is not in our hands. Desiring something is not the same as being aware that, although it is possible for it to happen, we cannot produce it, and we not try to do so: *we wait for someone else to provide it to us*. εὐχή, for an ancient and classical Greek, specified the disposition expressed in the fragment of Heraclitus–in Agustín García Calvo's rendering–to be waiting, so that, when the unexpected arrives, we recognize it.

Before I end, I want to refer to an intuition expressed by Hannah Arendt. In a footnote to her *The Human Condition*, she points out that in the analysis of postclassical political thought, it is often quite illuminating to find out which of the two biblical versions of the creation story is cited. Thus, it is characteristic of the difference between the teachings of Jesus of Nazareth and of Paul, that Jesus, discussing the relationship between man and wife, refers to Genesis 1:27: 'Have ye not read, that he which made them at the beginning made them male and female' (Matt. 19:4), whereas Paul insists that the woman was created 'of the man' and hence 'for the man,' even though he then somewhat attenuates the dependence: 'neither is the man without the woman, nor the woman without the man' (I Cor. 11:8-12). The difference indicates much more than a different attitude to the role of women. For Jesus, faith was closely related to action; for Paul, faith was primarily related to salvation.[37]

On this point, Saint Thomas, faithfully following Saint Augustine, adopts Paul's perspective. Arendt's suggestive inspiration—taken *cum mica salis*—offers us valuable light on this point. It is certainly possible, and it is real, although it must be nuanced, to distinguish between two ways of understanding Christian persuasion, one that involves the primacy of activity–*praxis*–and one that exalts the primacy of salvation. On this point, I will only note that the primacy of salvation emphasizes the future result of virtuous action, while the primacy of activity identifies salvation with a new and sublime way of loving in the present.

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[37] Hannah Arendt, *op. cit*. Page 8.

Some key aspects at stake in the social construction of energy

by Nicola Labanca

I am a physicist who has been dealing with energy questions for about thirty years. I started in the 1990s working on elementary particle accelerators and continued over the following decades with research on energy policies at Milano Politecnico and, recently, for the European Commission.

While training as a physicist, my teachers never focused on explaining how the principles of energy physics were put into practice and how theoretical constructs were applied in specific socio-technical settings. The chasm between the application of energy conservation and degradation principles to study steam engines and the application of these same principles to, say, study human metabolism or to organize energy supply and demand within societies was never bridged by adequate understanding. I believe that the notion of the social construction of energy is still quite exotic within most technical universities and research organizations focused on energy science and technology.

I began to read the literature on the history and philosophy of science, prompted by my struggles to understand the practical implementation of energy concepts and principles and by my disappointment with how they had been introduced to me as unquestionable givens. My translation of Illich's Social Construction of Energy for *Conspiratio* (this issue) is the result of this ongoing effort to develop a different perspective on energy research and policy. It is with a sense of liberation that I now better grasp the interaction between societies and laboratories in the construction of energy regimes.

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Labanca, N. Some key aspects at stake in the social
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The main insight I gained from this investigation is that a social construction can be, in appearance and fact, a very solid and concrete thing. A social construction does not imply that the resulting artifacts, techniques, and organizational arrangements are imaginary or fragile. Rather, to recognize that much of the energy systems we live with are made and not given is to recognize that they and their associated outcomes are neither necessary nor unavoidable. This simple fact implies that there are always alternatives to the constraints generated by how energy concepts are operationalized within societies. For example, it is taken for granted that energy resources are scarce, that societies are dependent on such resources, and that energy policies should be designed to help societies optimize this inevitable dependence. This logic, while not necessary, drives much of the push to expand the "green economy."

As strange as it may seem, there are still societies where people still live without energy and its organizing constraints. The point of recognizing the social construction of energy is to see that the more we stick to this concept by organizing our lives around associated energy conservation and degradation principles, the more these theoretical ideas are made real and the more difficult it becomes to escape the constraints they generate. To state my thesis clearly: I think that the energy principles used to organize contemporary societies are not natural, and further, that their application contines to transmogrify people and the universe into motors that need to consume limited energy resources.

What I attempt here is to add some elements to the analyses and insights already provided by Illich by discussing the social dynamics occurring around energy at three distinct but interacting levels:

1) The level of technical definitions and procedures established by experts including scientists, engineers,

energy analysts, etc. to operationalize energy principles when analyzing socioeconomic systems and devising intervention policies.
2) The level of social interactions between energy technologies, experts, and societies at large.
3) The level of culture where certain metaphors circulate across societies and disciplines to forge the spectacles through which we look at the world.

Before doing that, I must emphasize that the social dynamics I would like to discuss have nothing to do with questioning the energy laws as established and verified by scientists and technicians within their laboratories. Rather, my effort is to understand how energy concepts are employed to organize human activities outside laboratories and how they shape and have been shaped by interactions between laboratories and everyday life.

Another consideration that needs acknowledgment is that, despite the fundamental role it plays for science and society, nobody seems to know what energy is, including Nobel Prize-winning physicists. For example, Richard Feynman admitted that we "have no knowledge of what energy is," that energy "does not tell us the mechanism or the reasons for the various formulas," and that "we do not have a picture that energy comes in little blobs of a definite amount."[1] Similarly, Percy Williams Bridgman noted that "the energy concept has no meaning apart from a corresponding process."[2]

Though energy laws hold rigorously within laboratories, energy is not a thing of which we can have direct experience. Energy is only evident in specific transformation processes. This is a crucial point to keep in mind when energy concepts are employed to design policies and intervene in societies. For example, when policymakers tell us about the need for more energy, we must remember that what they mean is that we need more of a particular transformation process, whether through gas turbines, solar panels, or wind farms. Energy cannot be considered as an entity or a substance that underlies specific manifestations of it. Rather, there are specific transformation processes—a cheetah running, a plane flying, a turbine spinning—to which energy is imputed and computed. I will address some aspects of how this is done when discussing how energy is used to describe and intervene in socio-ecological systems.

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[1] Feynman, R.,1964. *The Feynman Lectures on Physics.* Volume I, 4-1

[2] Bridgman, P.W., 1961. *The Nature of Thermodynamics.* Oxford University Press.

Energy negotiations at the technical level

Let us begin with the *technical level* of definitions and procedures established by experts, including scientists, engineers, and energy analysts dealing with energy. The first point to note of what is done at this level is that *it is impossible to quantify energy contents without referring to specific transformation processes.* Without an agreement on a useful accounting framework, it is impossible to discuss the quantification of energy. For instance, the phrase "the energy equivalent of a barrel of oil" is meaningless without specifying how it is used. This is clearly illustrated by Giampietro et al.,[3] who refer to the different ways in which a barrel of oil can be used. They point out that the same barrel of oil can have a different energy equivalent when: (a) burned as fuel in a tractor, (b) thrown against a locked door to break it, or (c) used as a weight to hold down a tent against the wind (p.177).

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[3] See Giampietro, M., Mayumi, K. (2008). Complex Systems Thinking and Renewable Energy Systems. In: Pimentel, D. (eds) *Biofuels, Solar and Wind as Renewable Energy Systems*. Springer, Dordrecht. https://doi.org/10.1007/978-1-4020-8654-0_8 but also Patterson, M. G. (1996). *What is energy efficiency?: Concepts, indicators, and methodological issues., 24(5), 377–390.* doi:10.1016/0301-4215(96)00017-1

Accordingly, energy is not a thing. There can be many different processes that can be activated by using the same thing (a barrel of oil) and different energy amounts that can be associated with each of them (moving a tractor versus holding a tent against the wind). When quantitative estimates of energy are used to inform policy action, these abstractions serve the social construction of specific transformation processes (e.g., driving cars instead of cycling) in the name of efficiency, progress, and so on.

The second type of social construction generated at the technical level concerns the so-called *joint production dilemma*. This dilemma occurs when a given energy *input* generates multiple *outputs*. In such cases, there is in general no objective way to establish how this input must be apportioned among the different outputs. For example, a given amount of energy input is used by a sheep to simultaneously produce milk and wool.[4] Establishing the energy needed for a sheep to produce a bale of wool requires a social agreement among experts on how much of the total energy consumed by the sheep should be ascribed, for example, to milk and not wool production.

This case of joint production is not unusual, and the ways input quantities and costs are apportioned across different outputs are always arbitrary to some extent. Societies can use the same material inputs for a variety of different purposes just as people and animals use the energy they get from what they eat for a myriad of bodily functions. Whenever scientists, researchers, and policy analysts assess how energy inputs are linked to different outputs (e.g., factories using given energy inputs to produce a variety of outputs or households using the same gas inputs for cooking, space, and water heating) they are always required to establish agreements on how to allocate this apportionment.

[4] Giampietro et al. provide the similar example of a camel to discuss the joint production dilemma (p. 177).

The third and last type of social construction of quantitative energy assessments is necessitated by the unavoidable arbitrariness entailed by the so-called *truncation problem*. Social agreements necessitated in this case concern the number of inputs and related energy amounts to be associated with the production of the *same* output. As again mentioned by Giampietro et al., the literature on the energetics of human labor provides a nice example. Consider the flow of energy embodied in one hour of labor. This can refer to any of the following: (i) the metabolic energy of the worker during the actual work only, including or excluding the resting metabolic rate; (ii) the metabolic energy of the worker, including non-working hours; (iii) the metabolic energy of the worker and his dependents; (iv) all embodied energy, including a share of commercial energy spent in the food system to provide an adequate food supply to the population; (v) a share of all the energy consumed in societal activities; or (vi) a share of the solar energy spent by the biosphere in providing environmental services needed for human survival (p. 178).

Accordingly, Giampietro et al., observe that due to the different assumptions that can be taken, "rigorous scientific assessments of the 'energy equivalent of 1 hour of labor' found in the literature vary from 0.2 MJ to more than 20 GJ, a range of the order of 100,000 times!" The quantification of an energy input required for a given process (or an energy output) depends heavily on the choice made when defining the boundary of that process.

Overall, the descriptions and assessments of natural systems in terms of reproduced functions, produced outputs, and/or consumed resource inputs require the establishment of social agreements and standards to retain some meaning and usefulness. The separation between inputs and outputs that these descriptions and assessments entail is completely artificial and generates attribution problems that are always at least partially arbitrary.

How many outputs might I be producing while driving home from work? These outputs might be represented by miles traveled per hour, relaxation (or stress) produced in my body while driving, words produced while speaking with someone through the car phone, and many other activities that might be imputed to myself and my car during the journey. The level of arbitrariness in the definition of the outputs is inevitably reflected in the attribution of a determined energy consumption level to each output.

The discussed artificial separation and dichotomy between inputs and outputs also legitimizes policy intervention focused on the substitution of energy and technological inputs, for example, when it comes to devising solutions to reduce the environmental impacts of human activities. Based on this assumed separation, the European Union has estimated the energy impacts of regulations and directives implemented to induce first the wholesale substitution of incandescent light bulbs by compact fluorescent lamps (CFLs)[5] and then the substitution of CFLs by light-emitting diodes (LEDs).[6] These regulations and directives have been designed based on assessment studies[7] where energy savings associated with these substitutions have been established 1) using estimates of the amount of energy saved by each CFL (or LED) installed to substitute for an incandescent light bulb (or a CFL) and 2) on the assumption that the set of outputs is constant across the different inputs. Unfortunately, changing the inputs also changed the outputs, leading to assessments that overestimated the actual energy savings.[8] Among other factors that may account for this discrepancy is the large-scale commercialization of energy-saving technologies, which caused new unexpected applications. For example, unlike incandescent bulbs, LEDs are being used to grow plants, illuminate billboards, purify water and air, etc.

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[5] See https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009R0244

[6] See https://www.eceee.org/all-news/news/eu-commission-adopts-regulation-to-ban-fluorescent-lighting-by-september-2023/

[7] See for example VITO, "Preparatory Studies for Eco-design Requirements of EuPs: Project Report Lot 19: Domestic lighting," 2009.

Inputs and outputs are generally not independent. They co-evolve unexpectedly, in both good and bad ways. Whenever new technologies replace existing ones, they typically trigger unexpected changes in their field of applications that can defeat our attempts to foresee their energy impacts. Human activities must be reduced to a limited number of standardized operations when managed through the lens of scientific energy constructs. Although necessary to manage resource flows for populations at a large scale, seeing through this lens also blinds us to non-standard styles of life that do not depend on typical energy transformation processes.

Energy negotiations at the societal level

Illich's essay provides a series of relevant insights into the social interactions between technologies, experts, and society that I will not repeat here. What I would like to highlight is a key dynamic that seems to be at the root of these interactions, a point I've discussed in more detail elsewhere.[9] When central metaphors developed around energy are literalized, they overwhelm and blot out the underlying phenomenon being described or understood. Such literalization implies forgetting the distinction between the phenomena a metaphor attempts to bridge. For example, assume that when we say "Mr. Smith is a Lion" we constantly and completely identify the person of Mr. Smith with a lion, thereby engaging in a sort of tribal ritual. In these ritual transformations, the Lion becomes so magnified as to completely overshadow Mr. Smith's identity in the interactions we have with him, so much so that we lose the capacity to distinguish the context where Mr. Smith lives his everyday life from the context where the statement "Mr. Smith is a Lion" holds. This exaggerated example nevertheless shows how the literalization of metaphors developed around energy is transmogrifying ourselves and our environment. Nowadays, almost everybody thinks of coal as just an energy producer and of cars as merely energy consumers.

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[8] Schleich, J., Mills, B., Dütschke, E. (2014). *A brighter future? Quantifying the rebound effect in energy efficient lighting*. Energy Policy, Volume 72, Pages 35-42, ISSN 0301-4215

[9] Labanca, N. (2017). *Ontological Fallacies Linked to Energy, Information and Related Technologies*. In: Labanca, N. (eds) *Complex Systems and Social Practices in Energy Transitions*. Green Energy and Technology. Springer, Cham. https://doi.org/10.1007/978-3-319-33753-1_8

A particularly interesting case of this literalization is represented by the ritual practices developed around the metaphor "labor is energy." This is an organizing metaphor for societies everywhere and fundamentally shapes the everyday lives of people —from daycare and schooling supposed to develop human capital to technologies that increase labor productivity. Given the role it plays within societies, it would be false to suppose that this metaphor is a mere figure of speech. Instead, it is validated by specific actions and thereby constitutively organizes social dynamics. For example, the "weekend" is a worldwide institution established for working people to conserve and recharge the energy they expend during the week. Similarly, wages and salaries are paid as a function of the time spent at work, which is considered a resource equivalent to the energy expended while working.[10] Thus, pervasive social patterns are diffused by literalizing the theoretical notions of energy conservation and degradation established by physicists and engineers in the laboratories.

It is then worth emphasizing that the metaphor "labor is energy" identifies two terms—one of which (energy) refers to a concept and its related operational definition produced by science, while the other term (labor) refers to a series of embodied interactions with the physical world. In the process of literalization, the energy concept functions as a kind of black hole into which the myriad alternative ways of understanding and engaging with the world evaporate into the empty shell of a scientific concept. The scientific concept of energy creates a void of meaning because, as such, it has no meaning, and when applied to activities in daily life, has merely symbolic value. Therefore, the metaphor "labor is energy" is a catachresis.[11]

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[10] Perulli, A. (1996). *Il tempo da oggetto a risorsa.* FrancoAngeli Editore.

These arguments might be disputed on the grounds that energy is not a metaphor, but a real entity of which people can have direct and physical experience, such as when they receive an electric shock or when their body is warmed by solar radiation. The answer to this objection is that the direct experience of such transformation processes does not allow the inference of the existence of a universally conserved and continuously degraded entity that has been named "energy" by scientists and whose meaning is questioned by the scientists themselves.

Energy negotiations at the cultural level

The final dynamic concerns how social constructions occurring around energy act at the *cultural level* through the circulation of certain central metaphors across societies. Energy concepts have coalesced within societies around metaphors of motors and steam engines.[12] However, the validation of the literal interpretation of the energy metaphor does not exclusively come from activities organized around motors and steam engines. Philip Mirowski has shown that the societal validation of energy is most probably the result of mutual reinforcement and validation across different scientific fields: metaphors of motion in physics, metaphors of value in economics, and metaphors of the body in biology.[13] The ceaseless literal interpretation of the energy metaphor should therefore be seen as the result of the joint and mutually reinforcing constructions of invariants and conservation principles across the fields of physics, biology, and economics. Mirowski points out that the structures of explanation produced in these three different fields are homomorphic and might legitimize each other even in the face of possible disconfirming evidence produced in any particular field. The mutual reinforcement across these scientific fields started when the institution of money was disconnected from any specific commodity and became the representation of pure value; when the dual concepts of species (as entities that can be distinguished and separated from an external environment) and natural selection were established within the evolution theory of Darwin; and when energy conservation and degradation principles were established by physicists and engineers around the mid-nineteenth century. In my opinion, the idea of mutual reinforcement across explanatory structures in different sciences goes a long way to explaining how and why certain metaphors take a deep hold in a culture.

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[11] See https://en.wikipedia.org/wiki/Catachresis

[12] Rabinbach, A. (1990). *The Human Motor: Energy, Fatigue and the Origins of Modernity*. New York: Basics Book.

Energy conservation and degradation principles were invented together with fossil fuels and these principles still hold rigorously in the laboratory. Nevertheless, we are nowadays moving towards renewable sources, which are highly fluctuating and variable energy sources. The fossil-fueled economy is constituted through materials that can be stocked and used when needed. In contrast, solar radiation is a flow that fluctuates unpredictably and in ways wholly beyond our control. Whenever we stock it within batteries or other materials through given energy transformations, we lose large amounts of usable energy. Therefore, we must rely as much as possible on information networks to employ or redirect renewable energy from the point of generation to end-use points without storing large quantities of it. This is a very general trend going on within societies, well beyond the narrow issue of transmitting energy. Through information theory and information networks, we are learning that local storage of energy sources, materials, competencies, and skills of any kind can be highly inefficient and has to be avoided.

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[13] Mirowski, P., 1989. More Heat than Light. Economics as Social Physics, Physics as Nature's Economics. Cambridge University Press.

Just as metaphors of steam engines are thereby being superseded by metaphors of *information processors*, equilibrium physics is being englobed by far-from-equilibrium physics. Rather than species understood as entities distinct from their environment, bodies are thought of as *holobionts* composed of species in symbiotic interaction;[14] and, rather than the result of an equilibrium between demand and supply, economic value becomes the non-equilibrium outcome of agents that constantly change their actions and strategies in response to conditions that they themselves create.[15]

Energy, bodies, and economic value became entities that could be separated and abstracted from their environment when coal, oil, natural gas, and other carbon-based materials became resource stocks that could be extracted from the soil to fuel Western societies. Nowadays, these same societies are increasingly relying on information networks and fluctuating flows of solar radiation. As this happens, energy, bodies, and economic value are becoming relational entities that result from tight interactions with an everchanging environment and that can hardly be defined within delimited and fixed boundaries. The mutual reinforcement among metaphors and structures of explanations across the different disciplines of economics, biology, and physics appears to still hold despite the radical changes occurring in each field.

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[14] Simon, J.C., Marchesi, J.R., Mougel, C. et al. Host-microbiota interactions: from holobiont theory to analysis. Microbiome 7, 5 (2019). https://doi.org/10.1186/s40168-019-0619-4

[15] Arthur, W.B. Foundations of complexity economics. Nat Rev Phys 3, 136–145 (2021). https://doi.org/10.1038/s42254-020-00273-3

Conclusion

As already mentioned, this paper does not aim to question energy conservation and degradation principles or the fundamental role energy conversion processes play within societies. Contemporary societies are using huge amounts of natural energy resources to provide for their needs and wants. The situation seems to be destined to worsen, not least because of its impact on the climate and environment in general. Addressing this issue in energy terms is therefore inevitable and necessary. The point I am making is that approaches informed by technoscientific energy considerations should not claim exclusivity. Such views become detrimental when not complemented by alternative views that reflect the diversity of social practices, processes, and capacities of people to provide for themselves. Addressing the problem of resource conservation in terms of energy necessarily transforms a political question of how to live into a technical problem requiring an expert solution. It is therefore urgent to complement technocentric approaches with approaches where citizens are more actively engaged.

Rather than focusing on substituting cars and fuels with more "sustainable" technical input solutions, let's also consider and give more credit to the varieties of context-dependent approaches whereby people can reorganize their mobility practices in cities (e.g., by reimaging urban planning, changing mobility practices related to shopping, labor, leisure, etc). Rather than focusing on more efficient refrigeration technologies, let's also consider how food production, distribution, and consumption can be re-organized to improve the quality of what we eat while reducing associated energy impacts and dependency on refrigeration (e.g. through autonomous initiatives represented e.g. by solidarity purchasing groups, zero-Km food, etc). Rather than solely focusing on the construction of more energy-efficient buildings, let's also consider how increased comfort can be achieved by changing dress and living habits (e.g. by using jumpers/shorts indoors during winters/summers or by sharing living spaces). The technically created dichotomies between inputs and outputs can thereby be reduced and energy demand and supply reimagined.[16]

Energy invites us to think that whatever we do, we end up consuming differing amounts of the *same* natural resource input. By sticking to this view on a large scale, we socially construct a world in which humans everywhere behave in the same way. This is one of the main reasons why people end up consuming ever more amounts of energy resources and why policy measures devised to reduce energy consumption will be restrictive and unfair. In contrast, when we can change our way of life, we can identify a variety of ways to do things differently and in ways that increase our well-being while also reducing energy dependency.

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[16] Labanca N. et al. (2020). Transforming innovation for decarbonisation? Insights from combining complex systems and social practice perspectives. *Energy Research & Social Science*, 65, 2020, 101452, ISSN 2214-6296, https://doi.org/10.1016/j.erss.2020.101452.

No, Prometheus didn't cheat us: reflections on our science of nature

by Christophe Kotanyi

In my youth, I studied natural science with the perfidious intent of finding out what it was really about from the inside. Was it truly the heroic Promethean endeavor to steal fire from the gods for the benefit of mankind? Doubts had already arisen after the total horror of Hiroshima, which served as an exclamation point at the end of the most terrible war human history has known. Hiroshima was the result of the disinterested pioneering work of a handful of selfless scientists who were only interested in piercing nature's secrets. Their purpose was not to exploit nature, not to misuse her for criminal purposes, not even to make her useful for practical ends. Their purpose was purely scientific—knowledge for the sake of knowledge. Practical uses were of course welcome, but only as a spin-off, as a side benefit. At least, that is how the story is told.

The trouble with our natural science is that it claims to tell us what nature is but in terms of very remote concepts—concepts alien to our experience. Nobody has ever seen atoms, electrons, protons, or molecules; we do not perceive our body as made of little cells that interact, as biology tells us. Nobody has ever tasted vitamins or proteins, and when I have a cold, I do not feel myself being eaten by horrible little animals called viruses—which, to be sure, need not mean that they do not exist. We do not experience water as grains of molecules put together from two elements called hydrogen and oxygen. Water flows, a pure delight. Physics tells us that our weight is the result of a force called gravity, but we do not perceive gravity; we perceive our heaviness. Nobody has ever experienced electricity; what we experience is its effect when

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we switch on the light or when we touch the wire and get a shock, which we are told is electrical. That is all very puzzling. Science is a very difficult subject.

But it is also very useful, precisely in the Promethean sense, or perhaps more dramatically in the sense of a figure from Biblical mythology called the Golem. The Golem was a divine assistant put at the disposal of humans in a time of extreme emergency. It was made of clay and had the unspeakable divine Name carved on its forehead, making it invincible. However, it was imperative to erase the carving as soon as the emergency was over to prevent the Golem from running amok.

With Hiroshima, our natural science has outed itself as a Golem, which it had been all the time. I have previously argued that the divine Name carved on its forehead takes the shape of the mathematical zero, which is closely related to the mathematical concept of infinity and was earlier a key attribute of the divine.[1] I argued there that we must erase it urgently, lest the Golem continue its work of destruction.

In what follows, I would like to discuss three examples of the extreme destructivity of science-as-Golem. These examples are very remote from our everyday experience, but they best illustrate this destructivity precisely because they are both remote and extreme. Yet, these examples are drawn from my practical experience, from my days when I worked as an astronomer engaged in scientific research. Therefore, I now act as a 'double agent' reporting from the scientific lab I infiltrated as a common man. But I hope that my former colleagues will not be too cross with me, since I know that they too have been plagued by the same doubts ever since the Pugwash conferences failed to limit the threats of nuclear technology. Since Hiroshima, physics has openly become a central piece of the military industry, of a military now intent much more on the horror of total destruction than on the honors of heroic battle. To avoid being too closely involved in that, I went into astronomy, into the study of infinite spaces out of reach of human misuse. But I soon discovered that I was all too naïve, and the growing militarization of astronomy pushed me out.

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[1] C. Kotanyi, "Unthink the Zero!", *Conspiratio* 3, 2022, p. 79.

Though remote from everyday experience, my three examples are still very well known. We have all heard of black holes, of the Big Bang at the origin of the universe, and of the unsolvable dilemmas of nuclear technology. Every time I out myself as a renegade astrophysicist, people ask me with an eager look in their eyes: What are black holes? What was there before the Big Bang? Black holes and the Big Bang are very mysterious, and they stir up our imagination and quite fundamental issues, even if they seem to be far away from everyday life and at home only in a little world of specialists. If I invite you to cast a suspicious glance at them, it is because I see them as among those rabbits in the scientist's hat, which are periodically pulled out to trick us into believing the absurdities of science. I think that scientific products should no longer be left to the experts who continue to deceive us, but that should make me a suspicious character too. Double agents always are.

As for nuclear power, it has grown increasingly destructive while growing increasingly indispensable. What are we to do with it? My proposal here is to expose it as a cheat or a fraud, which is made possible because the concepts of science are so far removed from our daily experience that we cannot perceive them as such, as cheats. Following Ivan Illich, who tried to break the spell that abstractions cast on us by showing how they were historically formed, I attempt to do the same by looking at the concepts themselves with an expert but openly critical eye.

The scientific concepts I discuss are puzzling because they are frauds. We say "squaring the circle" to indicate an impossible problem that must be solved by any means, even if the solution is not quite correct. The mysterious power of science can be likened to the way Columbus' egg can be made to stand on its small end by cracking it, just like mathematics can be made to calculate anything as long as it is founded on the zero, on the absolute nothing at all.

The fraud lies at the inception. Science claims to know the basic elements of the world—atoms, molecules, black holes, the Big Bang, gravity, photons, bacteria, and viruses—that constitute the very substance of nature. We are only capable of experiencing the effects of these scientific entities: weight, light, the colors green and red, the flu, the trees, the butterflies. Congenitally incapable of sensing those basic scientific elements, the common man cannot understand the world according to Science for and by himself.

As a consolation for this grim outlook on science, I will propose to you at the end some examples, again from astronomy, of beautiful and very well-known natural phenomena, even if they are not always present in our everyday lives, which fit very badly in our science of nature and which it therefore simply chooses to ignore.

On Snarks and Boojums

Restons silencieux parmi la paix nocturne
Il n'est pas bon d'aller troubler dans son sommeil
La nature, ce dieu féroce et taciturne.

Let us respect the silence of the night
It is not good to disturb in her sleep
Nature, this goddess fierce and taciturn.

the French poet Paul Verlaine warned (my translation).

The goddess Nature now possesses a new feature invented by science which we may call, with Lewis Carroll, the *boojum*. This jolly name designates something quite un-jolly, a horrible thing which the astronomers call a black hole, fierce and taciturn, cruel and silent beyond all imagination, so dense that not even light can escape its monstrous grip. Yet it is thought to produce the loudest and biggest things we know of, something puzzling and strange, like Lewis Carroll's *snark*, perfectly harmless provided you keep away from it. The astronomers call them quasars. They are also called radio galaxies. These are galaxies that emit radio radiation so intense that if they were close enough, they would jam all our broadcasts like a very huge sonic boom that would silence everything around us. But then we would not be here; we would have been torn to pieces by the black hole. For the snark is a boojum, you see; quasars are black holes. We are fortunately safe; they are very far away, completely benign.

What turns the cruel and silent boojum so loud? That may also be a secret of nature, which we had perhaps better not ask too much about. Nature has taken precautions too. The secret is hidden somewhere between two areas of physics that are incompatible. That is bad news for our science of nature and puts it in very bad shape, which physicists will deny. But that is how our science works. It is very good at cheating.

The snark is a boojum

Let the expression *snarks* be a nickname for the largest constituents of the universe, at the opposite end to what physics calls the *quarks*, the smallest constituents. The snarks are the radio galaxies thought to come from black holes buried deep at the centers of galaxies.

These nicknames come from literature. The *quark* is something bizarre; the term derives from quark, the German word for curd cheese. The boojum is Lewis Carroll's ominous monster, which we will never know anything about because every attempt will have you vanish *softly and suddenly*, which very well describes the total horror of black holes. We might apply to them Nietzsche's aphorism concerning the senile god of a "*monotono*theistic" religion turned insane: their only excuse is that they do not exist.

Black holes, just like the so-called cosmic singularity "at the origin of the universe," the Big Bang, are fantasies of a science of nature turned insane. There isn't a scientific theory for them, because that would require the use of both the theory of relativity and quantum mechanics, which is impossible since the two theories disagree. Either one is true or the other is true, but not both. To put it simply, quantum mechanics treats forces that have two opposite sides—positive and negative, attraction and repulsion—like electricity and magnetism, whereas relativity theory treats one-sided gravity, only attractive forces. These are mutually incompatible descriptions of the world and cannot be applied to the same phenomena. Albert Einstein was very aware of this incompatibility and rejected quantum mechanics for that reason.

Two theories

A first attempt at their reconciliation was suggested by Stephen Hawking, the author of the best-seller *A Brief History of Time,* which claimed to help us digest the absurdity of the Big Bang. In terms of relativity theory, black holes must be treated like elementary particles because their enormous gravity makes them indivisible. But then they must obey Werner Heisenberg's quantum mechanical uncertainty principle, which states that elementary particles will nevertheless divide "to some extent."[2] Some of the enormous mass will escape as energy according to Einstein's $E = mc^2$, and that will amply explain the intensity of the quasars. Yet a calculation of that energy beyond the "in principle" argument is impossible because the combination of the two theories produces infinite quantities, which physics cannot handle. This rules out the idea as a scientific theory. Astronomers prefer another theory, in which matter forms a thick and hot whirlpool before falling into the black hole, a little bit like the water flowing out of your bathtub, and the snark is produced by complicated electromagnetic forces within the whirlpool. In this case, the calculations indeed provide for nearly but not quite all the energy needed. All the same, the problem is now considered as having been essentially solved, but that is not the case.

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[2] Technically speaking, the better we know the mass of the black hole, the more probable its decay, hence a finite rate of decay, which however cannot be determined without arbitrary, *ad hoc* assumptions because the mass-energy tensor will produce infinite quantities due to the infinite range of gravity. And infinity is not a number, there mathematics breaks down.

Nuclear energy

That is reminiscent of another episode in the history of astronomy and physics, the discovery of the nuclear origin of the energy from the sun and the stars. Two hundred years ago, most astronomers, including the great English astronomer of German origin, William Herschel, were quite happy with the idea of the sun as an enormous mass of coal burning since the beginning of the times. Then the new science of geology pushed that beginning back to a much earlier time, and the idea no longer worked. A new science called thermodynamics was created to explain the sun's radiation with the transformation into heat of the energy of movement of matter, such as meteors, falling into the sun. Again, that worked nearly well but not quite.

Then came relativity theory and quantum mechanics, which led to the discovery of nuclear energy, which provided a full explanation. That prompted the development of nuclear technology. Yet the sun and our nuclear plants work in exactly opposite ways. The sun puts atoms together to produce energy, whereas our nuclear plants take them apart. The sun produces natural energy; our nuclear plants produce unnatural energy. The nuclear plant is a fraudulent sun. Again, this is a result of the incompatibility of relativity theory and quantum mechanics. In a plain sense, the very intense pull of gravity deep within the sun, necessary to put the atoms together, is even unthinkable on Earth. Physics thinks of gravity and the nuclear forces as if they were separate, but they are not unless we think of the sun as a permanent hydrogen bomb.

When Prometheus stole fire from the gods, was that a fraud? No, that was at least a genuine, honest fire and a genuine, honest theft too, for which Prometheus paid the price. Contrarily, science kills. To steal nature's secrets, it cuts her into pieces and then itself falls apart into increasingly specialized sciences that are themselves divided into mutually incompatible parts, like physics. And believe me, this incoherence cannot be fixed. Because nature is a deep mystery, and as artist Marcel Duchamp once remarked, all the attempts at piercing her secrets will only make science ridiculous. Maybe we shouldn't have asked about the sun's secret in the first place. Maybe we should have just loved it for its beauty.

The cheat

But our science is only interested in usefulness. For that, it produces fictions and calls them nature. Nobody has ever seen atoms, molecules, gravity, electricity, energy, vitamins, proteins, electrons, protons, neutrons, or quarks. Science attempts to square a circle by sleight of hand. For example, it says that the circumference of a circle is equal to the diameter times a number called *pi*. But *pi* is not a number; it is a proportion—the ratio of the circumference to the diameter. This may seem like a harmless question of terminology, but it is not. A number has an exact value; three is three and four is four, but nobody knows, and nobody will ever know the exact value of *pi*. Nature is exact. My hand has five fingers, not one less and not one more. Nobody knows why, and though science promises to explain everything, it cannot, and therein lies the fraud. What science explains is not nature itself, but nature as staged in a lab experiment or a computer model. Nature observed under controlled conditions is nature put on the stage by man. Francis Bacon, one of the founding fathers of experimental science, acknowledged that nature needed to be tortured to reveal her secrets. We know enough now to know that secrets revealed under torture should never be trusted.

The Big Bang

Hawking answers the question "What was there before the Big Bang?" by explaining that, since time was also created then, there can be no "before" the Big Bang. The expression "Big Bang" was created in 1949 by Sir Fred Hoyle, who was against the absurdity of everything beginning in a big explosion, which expresses nothing else than the tendency of our science of nature to produce theories of destruction. Let us skip the question of the absurdity of the very idea of a scientific theory of the entire universe as if the universe could be put into a laboratory. Hawking's boojum argument ought to apply here too: the universe is indivisible hence it must divide. But if there are many universes, what is the meaning of the word? To put it succinctly, the very idea of a scientific theory of the universe is a fraud, maybe the biggest.

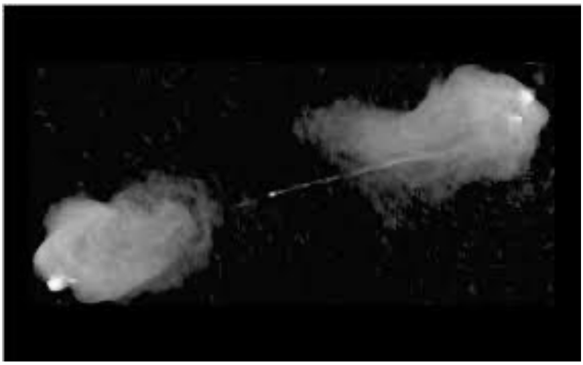
Sun and moon

Did you know that our earth has something astronomically very special, unique among all the planets we know of and perhaps in the whole universe? It is called an exact solar eclipse, which is when the moon perfectly covers the sun in the sky, not a hair's breadth more or less. For science, that is a meaningless coincidence. But if so, it is an extremely unlikely coincidence, something like an exact copy of you being born elsewhere, and it must happen precisely to our earth—to the only planet with living beings on it we know of in the whole universe. Nobody knows why that is so, but it is very real.

You probably already know that the moon revolves around the earth once in one month, which is exactly the time it takes to spin once about itself. It always shows us the same face, like a stone that you spin around yourself at the end of a string. Science has a perfectly good explanation; let me try to summarize it. The gravity of the earth distorts the moon; these distortions together with the pull from the earth cause the spinning of the moon to slow down, and over many millions and millions of years, it ends up keeping its shape by showing us the same face. That need not be obvious to you, but it works very well mathematically. And now, though you will not believe me because it does not belong to everyday experience, the sun also spins about itself once in the same month. Again, a too-neat coincidence, isn't it? And believe me, there is again no scientific explanation. Long ago in Western culture, this was called harmony. It is a ridiculous notion today in the time of science, of course. "Harmony" doesn't explain a thing and is perfectly useless. But harmonies are not there to explain things, to be explained, or to be used. They are there to be admired and wondered at.

As a final example of nature as harmony, our science of astronomy tells us that our eyes cheat us when we see the sun, the moon, and the stars revolve around us. No, that is an optical illusion produced by the earth spinning about itself (which we do not feel thanks to a clever thing called inertia). But have you or anyone else ever seen a movement of the sky that made you wrongly think that the sun, the moon, and the stars were revolving around the earth? No, what we see is that they are now here and then there in the sky, and from that we deduce a movement of the sky, which we never actually *see*. The very interesting reason for that is that the threshold of sensitivity of our eyes to movement is just sufficiently below that apparent movement so that we always see our sky—the firmament—as perfectly immobile. Why that must be so, I leave it to you, as our dear math teachers would say, as an exercise.[3]

A snark, the thinnest foam we know of but also the most saturated with energy. It is ten times bigger than the average galaxy, hundreds of thousands of light years across. This is a face nature shows us when we treat her too badly. Unfortunately, getting just a notion of what you see here would require your initiation too as a research astronomer.



Source: Radio galaxy *Cygnus A* as seen with the radio telescope of the National Radio Astronomy Observatory, New Mexico, USA.

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[3] Hugo Kükelhaus, in a little-known short essay, suggested how the immobility of the sky and the exact eclipses could be understood as existential requirements for the appearance of life on the earth (ref. unknown), of life as the experience of change in an unmovable world, and as that more subtle mixture of being and non-being together during an eclipse. A beautiful argument.

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The Encountering Body: Natural Metaphysics

By Lapo Chittaro

You and I are here, and I hope that Christ is between us as a third

Aelred of Rievaulx

Eyes (I-Thou)

Our lives are made up of everyday gestures, words, conversations, and dialogues. By relating, we enact daily exchanges. In this cluster of communicative exchanges, it sometimes happens that we meet the other with whom we are relating in the present moment. When such authentic encounters can take place, it is the gaze that allows us to participate in the intersubjective and interpersonal sphere. Each of us holds in our invisible interiority our own *visage*. Although in our daily exchanges we often come into contact only with the superficial part of the person in front of us, it can happen that in the authentic encounter one meets the *inner face* of the person, the *hidden face* of our interlocutor. If we, in the first place, are in contact with our inner face (*visage*), then our gaze can become a bridge to *commune* with the invisible face of the other person. Here the true encounter can be described as the contact between a living gaze and a present *visage*. In this deep dimension of interpersonal interaction, the gaze transcends the level of everyday communication to become an organ of *personal communion*.

If we look at speech from the point of view of this silent interaction between gaze and *visage*, it becomes clear how speech and discourse are often used as a shield that guards against an *intimacy* that one does not want to experience. The mass of everyday words and gestures can be seen as

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a construction of walls to prevent the possibility of intimate communion between *gaze* and *visage*. It happens, however, that even words, on certain happy occasions, can be welcomed into the intimate space of communion generated by the *creative tension* between gaze and *visage* and, in its being said, can retain the *aura* of silence. Then silence and words are no longer two opposites that exclude each other but two elements that combine to create the intimate communion of the encounter; the same can be said of the gestures of the body.

Levinas is the great philosopher of the *visage*. He taught us that the *visage* is a transcendent reality that constitutes the person; the *visage* is the symbol of personal uniqueness. The *visage* is a trace of the infinite, with which we can make contact. An authentic encounter is always an encounter between two singulars. The very recognition of uniqueness opens the doorway to the dimension of authenticity and the truth of the encounter. The encounter between singulars, to avoid a fusion that would nullify the encounter, must take place in the dimension of *distance*. In the everyday dimension of distance, it is possible for two distant singulars, through the gaze, to become *neighbors*. Distance makes it possible for each to be sufficiently *gathered* to welcome the other and sufficiently *open* for contact to take place. The *place held open* by distance is the prerequisite for the encounter to happen.

In the space of everyday distance, it also happens that the gaze is absorbed and captured by screens, and then the *visage* remains unseen; abandoned to itself, it loses the intensity of existence. The gazes dispersed in the screens create a shared context of life *poor in gaze* and leave inner faces *unattended.* The eyes that meet the screen become isolated from the gaze. The digital user is distinguished by his or her particular way of looking, which belongs to the attitude of the eye that Byung-Chul Han defined as the *optics of* *the information hunter.*[1] Eyes functioning as mini-cameras taking pictures of what is shown makes attention too superficial, too scattered to allow the encounter between a loving gaze and a vibrant *visage*; moreover, the act of looking as a kind of video recording becomes forgetful of the possibility of being a *gift of attention* for the other. In the *tactile gaze* at work in the encounter, on the other hand, one is still dealing with an embodied gaze, not separated from the synesthesia of perception. In the gaze the *body*, *soul*, and *spirit* of the person looking are present, therefore not separated from love. The *mutual gaze* thus becomes that act capable of generating a field of loving-kindness to guard personal existence, in which the *visage* is guarded by the gaze of the other. The other's gaze embracing my *visage* makes me exist more intensely, makes me discover that I am a gift of the other's gaze illuminating my uniqueness. The gaze of encounter is finally revealed as the privileged place for the embodiment of love in the interpersonal dimension.

From the text *Spiritual Friendship,*[2] we are gifted with an allusion to a very evocative ritual gesture enacted by two monks about to have an intimate dialogue that would like to reach out to and touch the truth. To begin their meeting of gaze and *visage*, of listening and speaking, the two light a lamp or a candle in the hope that their encounter will also be attended by a third person: Christ, who guards the faces and guides them on the path of truth.

In fact, the authentic encounter is always a grace; one has the impression that there is a third party, the Spirit, to guide us, to rescue us from dispersion, and to make our *vis-*

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[1] Han, Byung-Chul, *In the Swarm: Digital Prospects*, Cambridge: MIT Press, 2017.

[2] of Rievaulx, Aelred, *Spiritual Friendship*, trans. Lawrence C. Braceland, Collegeville: Liturgical Press, 2010.

ages land in the safekeeping of the other's gaze and invite us, in turn, to safekeep the other's face in our gaze.

The *gaze of love* can open a breach in the world of daily shielding, forgetfulness, inauthenticity, and anonymous impersonality by resurrecting us to the experience of Life; it is one of the ways the infinity of Life makes itself present by regenerating as You. The gaze of the other, as a bent candle with its flame, rekindles our candle, and the face shines again.

Mouth (I-Thou)

The meeting of faces through the tactile gaze is defined in a new way by Luce Irigaray. In chapter 11 of her text *To Be Born: Genesis of a New Human Being,*[3] she proposes a way of knowing the world and entering into a relationship with its original living entities—a mode of cognitive relationship she calls *recognition.*

If in our meeting we can access the mode of recognition, we can experience a *true and authentic encounter* instead of an *impersonal communicative exchange*. To recognize is to relearn to perceive the here-and-now in which the encounter can happen. Encountering in the mode of recognizing makes us attentive to the presence of the other in the here-and-now; the continuous *attention* and *concentration* that we place in encountering lead to a process of unification of perceptions of the recognized other that will culminate in the *contemplation* of the other's *visage*; then the gaze will reveal itself as a bridge capable of connecting our *visages*; we will be a whole in communion with a whole, two unique ones recognizing each other as such in a living relationship.

To come to this living encounter, typical of the mode of *recognition*, it is necessary to renew our relationship with language. The relationship to speech must be such that we do not enclose ourselves and the other in a totality of signs that could deaden the living encounter, which can happen only when living here-and-now. Preliminary to the new perception of the other's face is to unlearn all preconceived ideas and beliefs that come to us from memory and everyday language; another necessary element to the true encounter is a certain degree of recollection capable of putting us in touch, in the first place, with our *inner face*, the source of the radiance of our presence in the present. To keep alive the new perception of the other in the present moment, it is also necessary to learn a new relationship and a new use of *speech and language* that does not seek to designate and capture the presence of the other in a series of terms but rather makes space around the other's *visage* to give it a place from which its inimitable word can flow. It will then be a matter of abandoning that cognitive posture that tends to *objectify* the other and reduce the one we meet to an object of knowledge or a source of information. Too often in objectifying meetings, we forget the infinite complexity of the other, the dimensions of soul and spirit, his or her being You. From the cognitive subject-object logic, we must leap to the logic of *intersubjectivity* capable of revolutionizing the perception of the other in the dynamic of the living encounter. We recognize in the living encounter the energy, the breath, the soul, and the spirit in the one to whom we turn our gaze, and the encounter takes place in life, in the living word, and not in the impersonal space of objectifying language.

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[3] Irigaray, Luce, *To Be Born: Genesis of a New Human Being*, New York: Palgrave Macmillan, 2017.

Finally, we can emphasize that the other's word is also a concrete and carnal emission of breath. By speaking, the other also generates an atmosphere with his breath, and I, in some subtle way, breathe in his words with my nose and bowels. When this happens, we are in *Conspiratio*, in an amicable atmosphere involving the presence of the other's gaze and speech, felt viscerally. Together we generate and feel a *common atmosphere* in which we also live. The encounter in which we are together has its own *aura*.

Here it may be interesting to pay close attention to an author much loved by Ivan Illich, namely Aelred of Rievaulx, a Cistercian monk who lived in the 12th century. The text *Spiritual Friendship* is a successful attempt to bring the classical ideal of *philia* into the Christian context by transfiguring it in the light of the Gospel. In particular, the text can also be seen as a Christian rewriting of Cicero's famous dialogue on friendship, the *Lelio* that Aelred had surely read in his adolescence, during his formative years at the court of King David I of Scotland. In *Spiritual Friendship,* our author addresses the theme of *Conspiratio* in the section entitled *Various Kinds of Friendship: The Three Kisses.*

> 21. Hence a friend clinging to a friend in the spirit of Christ becomes *one heart and one soul with him*. Thus mounting the steps of love to the friendship of Christ, a friend becomes one with him in the one kiss of the spirit. Sighing for this kiss, one holy soul cried out, "*Let him kiss me with the kiss of his mouth!*"
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> 22. Let us consider the characteristics of this kiss of the flesh, that from what is of the flesh we may rise to the spirit, from what is human to the divine. Life is sustained by two sources of nourishment: food and air. Without food one can survive for some time, but without air not even an hour. Through our lips, then, for survival, we inhale and exhale. What is inhaled or exhaled receives the name *breath* or *spirit*.
>
> 23. In a kiss, therefore, two spirits meet, blend, and unite. Begotten from these two spirits, a sweetness of mind awakens and engages the affection of those who exchange a kiss.
>
> 24. So there exist physical kisses and intellectual kisses. The physical kiss is made with the joining of spirits and the intellectual kiss with the infusion of grace by the spirit

> of God. The physical kiss should be offered or accepted only for fixed and honest reasons. Here are some examples: as a sign of reconciliation, when those who have previously been mutual enemies become friends; as a sign of peace, when those about to communicate in church show their inner peace by an outward kiss; as a sign of love, as is permitted between husband and wife or as is given and received between friends after a long absence; or as a sign of catholic unity, as is done when a guest is received.
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> 25. But just as many misuse natural goods such as water, fire, iron, food, and air as instruments of cruelty or of pleasures, so perverts and the depraved somehow attempt to sweeten their crimes with a kiss, though natural law established it as a sign of the blessings mentioned. They defile the kiss itself with such wantonness that their kiss is nothing but adultery. Any honest person knows how much such a kiss should be loathed, abominated, shunned, and rejected.
>
> 26. Now the spiritual kiss belongs to friends who are bound by the one law of friendship. This takes place *not through a touch of the mouth but through the attachment of the mind*, not by joining lips but by blending spirits, while the Spirit of God purifies all things and, by sharing himself, pours in heavenly flavor. This kiss I would aptly name the kiss of Christ, which he offers, however, through the lips of another, not his own. He inspires in friends that most holy affection, so that to them it seems that there exists but one soul in different bodies, and so they may say with the prophet, *See how good and how pleasant it is for brethren to live in unity.*"[4]

Here, from the word considered as the emission of breath, from the *carnal word* (a word of intimacy and desire), we could speak of *carnal dialogue*, meaning by this expression a *conspiratio of the everyday life* that takes place through the viscerally felt carnal word; a communion between the *I* and the *Thou* mediated by the breath of the living word.

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[4] of Rievaulx, Aelred, ibidem, pp. 75-77.

Heart (I-Thou, We)

Imagine the *inner face* as a vibrating string plucked by God's hand to emit a special, unique vibration of its own. In the encounter of one *visage* with another, one of these "strings" can also resonate with the other and compose a harmonic chord, an encounter.

To continue thinking about encounters in this key, I dwell on the intellectual contribution of Hartmut Rosa, who has developed a sociological reflection around the concept of *resonance.*[5] Rosa provides us with this musical metaphor and allows us to think about the theme of encounter with a language capable of evoking the invisible dynamics that take place in the encounter. Here I will try to bring the metaphor of resonance back to the existential dimension.

Let us start with the eyes: finding ourselves in a semantic field that concerns music and therefore listening, the eye is not the place from which the ocular ray of the gaze capable of reaching the face of the other spreads, but is seen in this framework as a *window of resonance*. Now it is the voice that touches my *visage*, reconfiguring itself as an inner vibrating string. When one feels touched by the other's voice, the face vibrates like a tuning fork and the eyes shine and become windows of resonance, witnessing in their shining the future of the joy of encounter, of the agreement of faces._

For my voice to reach the *inner chord* of the other, it is necessary that a resonant chord, or rather a channel onto which the creative tension of the encounter can travel. When the cord is stretched, the eyes shine, and there is reciprocity and interaction.

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[5] Rosa, Harmut, *Resonance: A sociology of our relationship to the world*, New York: John Wiley & Sons, 2019.

If God plucks my inner chord, my face speaks; the voice and the word can travel on the resonant chord and reach the inner chord of the other; but it may happen that we are carried down by the force of gravity, and now the *visage* shows itself as mute, the resonant chord is broken, and we stand in front of each other as strangers, as aliens who mean nothing to each other. Still, at other times we must struggle for the word to reach the other, the channel of communion seems congested, and the world between us shows itself as a set of obstacles to overcome.

Byung-Chul Han takes up the metaphor of resonance in his discussion of the disappearance of the ritual way of life.[6] The Korean philosopher sees community as a *space of resonance*, a field of resonance. In the space of community, we can meet each other; a creative tension is ignited between us through the sharing of a *collective feeling* that transcends the small personal ego; it is the feeling that puts us in a sentimental connection with the world. The world that is waning is a world of community without communication; one is together through the sharing of collective feelings and a living in common ritual life. In its place, the author sees the rise of a world of communication without community, that of atomized individuals reduced to the swarming of neoliberal and digital society. Byung-Chul Han takes an apocalyptic stance and points to only the ability to *play* as the answer, in a strong sense; play opens up the creation of a new *form of life* irreducible to any definition.

The critical reflection on our present is interesting and resonates, in my memory, with a juxtaposition proposed by Raimon Panikkar in the introduction to his text *Worship.*[7]

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[6] Han, Byung Chul, *The disappearance of rituals: A topology of the present*, Cambridge: Polity, 2020.

[7] Panikkar, Raimon, *Worship and the secular man*, New York: Orbis, 1973. Here I'm referring to the introduction to the text that Panikkar wrote in Barcelona at Christmas 1977.

Panikkar proposes the power of ritual as an antidote capable of balancing the excessive preponderance of the scientific principle in the constitution-making process of our industrial societies. The *capacity for resonance* in the light of these reflections appears as the force capable of awakening us from the alienation of industrial society founded on the principles of scientific knowledge, technique, and productivity alone. Resonance is an attitude that has much affinity with the ritual attitude that, in Panikkar's vision, creates *dialogue* and makes relationships *personal*. The essence of ritual is to make reality no longer an impersonal Being in which the (anti)relational I-It logic typical of modern scientific knowledge dominates, but rather an *intimate* and *personal* space of relationship in which the *I-Thou* relationship prevails. Here, in the light of the above, *resonance* reveals itself as a fundamental relationship with reality, a *personal* and *dialogical* relationship, capable of response and open to transformation in encounter. The *visage*, as a vibrating string, resonates with the *visages* it encounters, and the experience of life becomes more intense and alive. The world, in the presence of God who gives voice to our face, is revealed as a *space of resonance*.

Encounter is a possible new way of life and *ritual practice of resistance* to the subtle totalitarianism of impersonal industrial society. Encounter is the force capable of opening a breach in the wall of impersonality in which the productivity principle encircles reality, rendering it incapable of speech. The mute and alienating irreality typical of neoliberal isolation is transformed into the force of personal communion, dialogue, the ability to resonate, and love that restores the word to the other and to the world.

Viscere (I-Thou)

To meet another person means first of all to look at him or her. Usually, insisting that typical of man is speech, much emphasis is placed on the act of addressing the other person. So, you first address the gaze and then the word and these two primary acts open up the encounter with the other. Now, together with Ivan Illich,[8] I would like to emphasize another decisive dimension of the encounter with the other that starts from our nostrils. For if we have emphasized the importance of the *eyes* and *mouth* involved in the first two acts of addressing (gaze and speech), it is also true that for the future of an authentic encounter, it is necessary that something be unlocked in that subtle and invisible channel that connects our *nostrils* to our *bowels*. To truly encounter the other, we must open ourselves to receive the atmosphere emanating from the *presence of the other* in our bowels, and this can only happen through our nostrils, breathing in and smelling the other.

In times of the spread of the *performance attitude* and an increasingly pervasive invasion of all spheres of life of the *principle of productivity*, it is necessary for us to rediscover the attitude of stopping, pausing, lingering, and staying in a given condition long enough for our perception to be refined, to grasp even such a subtle element as an atmosphere and the tone of an environment, a situation. In addition, our daily modes of encounter tend more and more to be mediated by screens and speakers that can disable, if not nullify, the *carnal substance* of our looks and words, reducing our *visages* to the superficiality of virtual faces and our *words* to plastic and manipulable elements of communication. In this walled world, an emblematic example of the alienation of industrial society, the tension of *natural attraction* typical of all beings participating in the dynamics of *physis*, including women and men, is obstructed. Ivan Illich touches on this theme in the text *The Wisdom of Leopold Kohr.*[9] Here Illich states:

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[8] Illich, Ivan, The Cultivation of Conspiracy, in *The Challenges of Ivan Illich*, (eds) Carl Mitcham and Lee Hoinacki, SUNY Press, 2002.

> Not only were seeing and hearing transformed, not only the senses themselves, but also the character of desire—with the good disappearing, to be replaced by value. In ethics, value widely displaced the good. It's true that "value" is an old word; it stood near "dignity" in meaning, pointed out what was precious, indeed magnificent, and early on indicated the selling price of an object. Since the beginning of the eighteenth century, "value" has had these uses and has denoted what was always desirable, useful, and even what was due; it then entered discourse in place of the good. By the time of my youth, it simply stood on the positive side of zero. Today, however, one needs a qualifier—values can be either positive or negative. To resolve this convertibility, to make it determinate, there is no stable criterion. With values, anything can be transposed into anything else, just as in music, with equally tempered tones, any melody can be transposed from one key into another. Proportionality being lost, neither harmony nor disharmony retains any roots in an ethos. The good, in the sense of Kohr's certain appropriateness, becomes trite, if not a historical relict. It then becomes possible to speak about the triviality of evil.
>
> In ethics, values are as opposed to an immanent, concrete proportion as are the sounds of Helmholtz. Like them, values run counter to *tonos*, the specific tension of a mutuality or reciprocity. As timbre separated from tone, so that one could play a violin's part on the piano, so an ethics of value—with its misplaced concreteness—allowed

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[9] Illich, Ivan, *The Wisdom of Leopold Kohr (Annual E. F. Schumacher Lectures Book 14)*, Great Barrington: Schumacher Centre for a New Economics, 1994.

> one to speak of human problems. If people had problems, it no longer made sense to speak of human choice. People could demand solutions. To find them, values could be shifted and prioritized, manipulated, and maximized. Not only the language but the very modes of thinking found in mathematics could norm the realm of human relationships. Algorithms "purified" value by filtering out appropriateness, thereby taking the good out of ethics.
>
> When one attempts to utilize or exploit the good, natural inclination is extinguished. Such a propensity, the desire of everything for its own good, was accepted as inherent to all existence and was termed natural love. Even for several generations after Newton, rain was not drawn downward but sought its natural place. Flowers reached up toward the sun. Among people, this attraction was understood as a step toward friendship and friendship as the fruit of civil life. All were called to the other, to friendship.

Illich concludes by saying that Leopold Kohr knew that a certain sensitivity to what is *appropriate* is necessary to access friendship. Illich celebrates with Kohr the reality of *desire*, telling us that there is a visceral, vital, and erotic attraction to the other that is the foundation on which the edifice of love and conviviality can be built. From feeling my own good, I am attracted to the other who evokes my desire, and between us, a *resonant chord* is generated, and the *creative tension* of encounter can be shared.

In this journey, from the *nostrils* to the *guts,* and in these considerations internal to the metaphor of music, the *heart*, the place of resonance, becomes the space of openness in which one feels the other. Illich, in this journey between our carnal organs grasping an aspect of the other's *spiritual presence*, gives the heart and affection its central place, just halfway between the tip of our *nose* and the depths of the *bowels*. I feel an attraction to the other in my bowels; my heart resonates with the other's heart, and from this inwardness of the *visage,* the manifestations of the face's *gaze* and *speech* emerge. The person is then the *chiasm* of this invisible carnal dimension of *viscera* and *heart* (*visage*) and the increasingly perceptible dimension of the personal *gaze* and *word* (face).

The heart is also the place where the *common sense* for what is good is rooted. Starting from this felt sense for what is good, I'm able to relate to a specific group of people with whom I am sharing the breath, the aura, the atmosphere of the encounter.

With each arrival and departure of a person, the aura of the group changes and transforms; the breath of the group, the atmosphere changes with arrivals and departures. The specific group I am in is the *chiasm* of the faces, looks, breaths, and words of individuals who participate with their uniqueness and, by participating, generate the common atmosphere; an event, the happening of *Conspiratio*. Now we know what is in danger in the society of communication:

> Ivan, with his friends, wants to make thinkable and criticizable the idea that the central danger to be overcome in the use of communications is not their content, the access to produce them, or to use them as industrial products. [Instead], Ivan and his friends want to make it credible that the intensity of dependence on communication extinguishes the sovereignty that is rooted in the corporeal senses. The senses are critically verified by the common sense for what is good, in opposition to what is of value. For this reason, and for me at least and for my friends, communication destroys the possibility to believe that peace today is my responsibility, that I can make peace flower in a group with whom I meet face-to-face, that peace is based on conspiracy—on the creation of a hospitable atmosphere.[10]

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[10] Illich, Ivan, *The personal decision in a world dominated by communication*, *Conspiratio*, Spring 2023, p.109-110.

Conclusion

When we recompose the visceral element in our *phenomenology of encounter,* the word and the gaze recover their somatic rootedness and *carnal substance* (the bread and the wine that we can share) that can become a source of nourishment of a common and friendly atmosphere that breaks the closed totality of impersonal alienation. The bowels feel the presence of others, and the heart responds by emanating a vibration of resonance with the friend. The face, with its gaze and word, nourishes the *visage* of the other in viscera and heart, with the substance of its own face that seems to come, upon careful and deep consideration, from the *rivers north of the future*. In that amicable atmosphere, in *Conspiratio*, we mutually nourish each other with gazes, words, beats of the heart, and viscerally felt attractions in the grace of a *Third* who safe keeps us.

As Aelred tells us about the third kind of kiss, the intellectual kiss:

> 27. Having grown accustomed to this kiss and confident that all this sweetness derives from Christ and, as it were, thinking aloud, "O! If he would only come in person!" the soul sighs for that intellectual kiss and cries with the deepest yearning, "Let *him kiss me with the kiss of his mouth.*" So at last, with all earthly attachments calmed and all worldly thoughts and desires lulled, it may delight in the kiss of Christ alone and rest in his embrace, exulting and exclaiming, "*his left hand is beneath my head, and his right hand will embrace me.*"[11]

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[11] of Rievaulx, Aelred, *ibidem*, p. 77.

Fragments of Nature glimpsed from the criminal legal text

by Seonaid Abernethy

Sources of the Legal Text

Regardless of its antecedents, the drama in an everyday criminal court enshrines a paradox: the accused is embodied as a physical presence while also simultaneously disembodied by the conceptual framework of legal reasoning that is textual, self-referential, and necessarily eradicates the context of the offense.[1]

Illich begins his account of the modern text by walking carefully through the history of divine reading. He sees the *telos* (end) of monastic reading as that wisdom in which stands the form of the perfect Good, as a window on God and Nature. By the twelfth century, the text lifts itself from the page, arising to be a distinct object. The text as an object distances the reader from nature and encases both the world and the reader in information. As Illich wrote, "With the detachment of the text from the physical object, the *Schriftstuck,* nature itself ceased to be an object to be read and became an object to be described. Exegesis and hermeneutics became operations on the text rather than on the world. Only now, with nature reconceived as encoded information, can the history of the readability of the world become an issue for study."[2]

Within criminal law, the reader is transformed into a

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[1] In Goodrich's view, Nietzsche implies that the tradition of law " depends as much on embodiment as upon codification," see P. Goodrich, M. Valverde Eds *Nietszsche and Legal Theory Half-Written Laws* (2005) p.14.

[2] I. Illich, *In the Vineyard of the Text* (1993) pp.117-118. Also pp. 9, 113. Further, "All nature is pregnant with sense and nothing in all of the universe is sterile" quoting Hugh of St Victor, 118-119.

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Abernethy, S. Fragments of Nature glimpsed from the criminal legal text. Conspiratio, Fall 2024, p. 237-252

subject of the text; he or she is understood as a 'free individual' who is necessarily the 'legal person,' the cipher in a legal code based on a truth obligation. To shorten the centrality of truth in the history of modern law, I refer to Illich[3] and Agamben,[4] both of whom identify the act of recognizing something as true and the oath, where the latter is understood as the archaic origin of pre-law whence magic, religion, and law are completely intertwined. Agamben traces an evolution of these elements by way of a complex weaving of the truth obligation, implicitly, as a dissymmetry in the relation between the I and the Thou,[5] leading ultimately to an immeasurable grace.[6]

In other words, the oath pronounced with an object in hand, weighs the statement to the truth. The oath, says Agamben, then becomes a statement of loyalty (to another). There are two elements to this: the faith or trust that one places in another and the credit or authority that the latter enjoys as a result. But this relationship is unequal. Following Beveniste, Agamben notes that the one who holds the *fides* (faith) placed in him by a man, has this man at his mercy. He goes on to say that this is why the theme of grace must lie alongside the idea of faith. Moreover, this question of the oath, loyalty, faith, and its breach can be saved by grace alone. It reveals a fracture with the law because the law is explained by "obligations of counter service and command." Illich more clearly and succinctly says the same thing in his description of the I-Thou relation. For Illich, this relationship is exemplified by the Samaritan but not confined to it.

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[3] I. Illich and B. Sanders, *ABC The Alphabetisation of the Popular Mind* (1988) pp. 32-35; D. Cayley, *Rivers North of the Future* (2005), pp. 85-86

[4] I infer this from G. Agamben *The Time That Remains* (2005), pp 113-114 ,119.

[5] Ivan Illich identifies the I and the Thou relation in Cayley, *Rivers North of the Future* at pp 51-53, 55-56.

[6] Illich and Agamben both reach this conclusion, see: In *Rivers North of the Future* at p. 227 and in T*he Time that Remains* at pp 114-116, 119-120.

The turning to someone cannot be explained rationally and is "arbitrary from everyone else's point of view." Since it is unknowable from the outside, it cannot be the subject of a norm, rule, or law although it may break the legal code.

Referring to a long history in the Western tradition, Agamben acknowledges the written law demands a legal conception of the physical person. Moreover, this legal person is tied back to the physical being through "processes of subjectivization [that] bring the individual to bind himself to his own identity and consciousness and, at the same time, to an external power."[7] This means that despite the impenetrable singularity of the I-Thou relationship described by Illich and Agamben, the rule of law is addressed to legal persons who are ghostly abstractions of embodied persons. Agamben thereby demonstrates that democratic, human rights-oriented, rule-of-law regimes are organized around an empty throne—because no natural being can be identified with the fiction of the legal person.[8]

The depth of this irresolvable ambiguity between the legal person and the physical person is often instantiated by the accused with great confusion, discomfort, and sometimes rage.[9] The ambiguity is fostered, as Illich argues, by "…the relationship between the axioms of conceptual space and social reality insofar as this interrelationship is mediated and shaped by the techniques that employ letters. This history focuses on the thing that has been shaped by letters, the *Schriftstuck*; it studies the behavior this object defines, and the meanings which are given— class specifically—to this object and this behavior. We study the thing, as it has variously congealed the nature, source, and limits of an epoch's understanding of the world, society, and the self."[10]

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[7] I infer this from G. Agamben *Homo Sacer* (1998), pp. 1-5.

[8] This appears as Agamben's thesis, in *Homo Sacer,* especially, pp. 8-10, 181 et seq. Citing *Homo Sacer*, and linking historically, the legal person, the "liberal subject of rights," to property, Anna Grear argues further that the *UN Declaration of Human Rights* is now "re-rendered as a paradigm of trade-related market friendly human rights." She states that "International human rights law…should be understood as protecting human beneficiaries understood in all the radical particularity of fully embodied life." She sees the refugee, the asylum seeker as the most juridically naked and as the bottom line in the standard for human rights which should rest upon "embodied vulnerability" of the human. Otherwise, the domination of every social sphere by the "logics of commodification" raises the question as to whether human rights can survive. See A. Grear, *Redirecting Human Rights, Facing the Challenge of Corporate Legal Humanity* (2010) pp 152-153, 65, 201-202

[9] The charging of the offence itself, is often felt as an in-erasable political stigma.

The Barrier to an Outside

The congealing of behavior and understanding, by police, lawyers, and judges, in the world of the criminal text is revealed in the prosecutorial process. Law is the enterprise of subjecting behavior to rules, on the assumption an individual acts with reasoned intent toward an explicit goal. Law becomes "a rigidly scientific and peculiarly rational enterprise in the exegesis of legal texts."[11] According to this methodology, the nature of absolute or qualified prohibitions, which carry a penalty of imprisonment, has been traditionally opposed by certain 'human' rights,[12] based on the norm of the freedom of the individual.[13]

The exegesis process[14]culminates each time in a new decision, which means the law is written and re-written in a doctrine of compellable precedent.[15]Judicial reasoning on the text continues in its traditional language in 2024 but is rivalled now by the linguistic changes flowing from the exponential rise of information technology which codes behaviors as computer algorithms. For example, the former English Supreme Court Justice, Lord Jonathan Sumption, in a 2023 lecture to New Zealand lawyers, titled his speech "How the rule of law intersects with human rights," in which he is reported as saying, "the question is what rights are truly fundamental to the subsistence of civil society so that they should be placed beyond the reach of political choice."[16]Contrast Lord Sumpters 'rights talk' with the following observation on contemporary legal technique actually:

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[10] Illich, *In the Vineyard of the Text,* p.4

[11] P. Goodrich, "Law and Modernity," (1986) 49 *MLR* p.545

[12] I. Illich, *Gender* (1983) p.113 et seq and fn 82-84 – the reduction of the separate worlds of women and men to a uni-sex 'human' ignores the historical probability that in a gendered community, women and men may have faced different penalties for different offences which themselves were incommensurable.

[13] A. Denning, *Freedom Under the Law* (1949) p.5.

[14] The process itself comprises co-relative rules of analysis. See W. Hohfeld, "Some fundamental legal conceptions as applied in judicial reasoning" *Yale Law Journal* (1913), 12(1) pp.16-59 . I outline the basic scheme in Appendix C.

> Law no longer provides either the language or the conceptual structure of subject and sociality. Its displacement is effected by systems and technologies of communication that are independent of individual subjects and that are regulated by manipulation of economic and statistical indicators rather than by ethical criteria or subjective right. The principle of paternity gives way to that of providence, legal rationality to actuarial calculus, and subjects to autopoietic systems.[17]

There are some of the accused who try to resist their disembodiment by both the traditional legal reasoning and the contemporary algorithmic legal process, by trying to establish an 'outside' to the law. Accordingly, they say the courts have no basis to judge them since they are outside the jurisdiction of law. These attempts have always failed. As Agamben notes, modern governmentality aims at total control of biological life and as such admits to no outside to itself. In this sense, legal persons are those who have no rights beyond the reach of the law.

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[15] " Within the Western tradition, it is not enough for the law to be written, it has to be written and re-written again so as to engender an iconic status or priority of the one law over the many it displaces." P. Goodrich and M. Valverde Eds, *Nietzsche and Legal Theory* (2005) p.10

[16] Auckland District Law Society, *Law News*, Nov 3 2023, pp. 6-9

[17] P. Goodrich, "Social Science and the Displacement of Law" (1998) 32, 2, *Law and Society Review*, pp. 473-492 at p 479. Review of WT Murphy book, The oldest Social Science? Configurations of Law and Modernity (1997)

Popular Push to an Imaginary 'Outside'

I confine myself to one type of law—criminal law—and to only that part of criminal law where the forbidden act addresses a physical person as a 'legal person' who acts against another physical person; or, one who violates the rules while engaged in acts of subsistence livelihood. The range of what is comprehended by criminal law now extends beyond violent altercations because of the expanding reach and control of the money-based market economy on water and land use.[18] For example, both punching one's neighbor and hunting on reserve land with no license now require the accused to appear in court.[19] It is no surprise that in a country like New Zealand, which has had written texts only for roughly the last 180 years, there are popular struggles against the conceptual grid of text culture on the grounds of an imagined 'Outside.'

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[18] G. Dalton. (Eds) *Primitive Archaic and Modern Economies Essays of Karl Polanyi* (1968), pp 3-37 and 78-115.

[19] This scenario is complicated by the legally accepted Hohfeldian analytical technique whereby there are 8 co-relative concepts which express the basic relations of people within any government system. Four express capacity (right, privilege, power, immunity) and four express restraints (duty, no-right, disability, and liability). The co-relativity of this legal reasoning technique undermines the wild earth /eco-jurisprudence movement which seeks to give rights to nature. See WN Hohfeld, "Some fundamental legal conceptions as applied in judicial reasoning' Yale Law Journal , 23(1) :16-59 , Nov 1913; cited in R. Dawson, *The Treaty of Waitangi and the Control of Language*, Institute of Policy Studies VUW Wellington 2001, pp.16-39, and implied by Kirsten Anker when she says "while we can recognise the rights of nature semantically, a forest cannot recognise ours, nor be considered to have breached our human rights if we suffer harm at the hand of the 'forces of nature'." See K. Anker "Law As … Forest: Eco-logic, Stories and Spirits in Indigenous Jurisprudence". In *Law Text and Culture* (2017) 21, p.207

The first of these struggles recounted below, show simplistic efforts to escape the definitions in the Code, and to reach a place 'outside' the criminal law by using legal reasoning itself.

Popular Resistance to the "Legal Person'

Between 1995 and 2022, one hundred judicial decisions were appealed all the way up to the New Zealand Supreme Court by criminal defendants contesting the legal jurisdiction of the Court to decide the charges.[20] The alleged crimes ranged from attempted murder and drug manufacture/dealing to assault, theft, driving without a license, and illegal parking. The common ground for these appeals was that 'the Court has no jurisdiction.'

A popular starting point of such resistance is that the accused says to the police and court, "I am not the person you have charged." That is, the accused denies the identity imputed to him/her *qua* 'legal person.' In a recent case before the High Court in Wellington, the appellant said, "I am not the legal person, 'Scott Larsen' that you have written in your text as having assaulted the police officer. I am not that legal person, I am the living breathing human being, Scott of the House of Larsen, so therefore, your law does not apply to me."[21] Such arguments have always failed. One's legal identity is nailed to one's flesh like a brand to a hide.

The Social Contract and/or the Indigenous Maori claim to be outside the jurisdiction

Another attempt to reason a way out of the jurisdiction of the court is to invoke the "social contract" in criminal law.[22] By this reasoning, because the accused has not contracted with the Court officials, the legislation the Court is using does not apply to the accused, who should therefore be released from the power of the Court. An alternative to the 'social contract' language, is the accused who says his tribe did not sign the Treaty of Waitangi (an essential constitutional component of the New Zealand legal system) and he is therefore not bound by NZ legislation enacted based on that Treaty. All such arguments also always fail.

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[20] District Court decisions are not normally part of this statistics which means there may be many more than 100

[21] Larsen v Police [2020] NZHC 2520

Existential Moments within the Legal Grid: Restorative Justice

Criminal Justice/Violence: A drunken Methe punches the drunken Bibesia in the face 4 times. Methe is charged with assault which carries a penalty of imprisonment for 1 year.

Restorative Justice: It is the night after New Year's Day. Methe, aged around 25, is inebriated outside a bar at 2 am with her equally drunk husband. They have driven three hours from their country home to the town to party and dance at a bar. This is the first time they have been out at night in eighteen months. They get into a fight with drunken strangers–of which Bibesia is one.

Methe's husband is knocked to the ground and Methe sees blood on his face. Methe is also knocked to the ground and hits her head. Methe gets to her feet; she is a bit dazed, but Bibesia pulls Methe's head sharply backward by the ponytail and laughs at her husband in his suffering. Methe, enraged by her sore neck and head, and thinking she is defending her husband, punches Bibesia 4 times in the face. Bibesia's tooth is knocked out, her lip is badly cut, and she suffers a badly bruised face. She is off work for three weeks.

Methe is charged with common assault which carries a maximum penalty of one year imprisonment. She has never been before a court before. She may have recourse to the legal defense of self-defense. She comes before her lawyer in tears. She confesses that she does not know what has come over her to do this; she confesses she was drunk. She does not want to go to a criminal trial on the basis it may have been Bibesia who knocked her and her husband to the ground. Methe wants to admit her wrongdoing immediately and be punished that day. But, when she looks at the maximum of one year's imprisonment sentence, she weeps desperately again and pleads not to be sent to prison. Bibesia has lost two thousand dollars due to her injuries which are the repair to her tooth, and loss of wages.

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[22] Usually, Hobbes, Locke and Montesquieu are not cited as authority and in one case, when I tried to discuss them with one accused, she had never heard of them while insisting there was no contract between her and the Court.

Methe tells her lawyer, that she gave birth to her son about six months ago and is still breastfeeding and thinks she was overcome at seeing her husband on the ground with blood on his face. She says she is hyper-vigilant because of the breast-feeding. She says through her sobbing, "If the wind changes, I start crying. I cry at everything – if the door slams; if I drop something; I cry. I think it's the breastfeeding. I think I'm oversensitive." Methe's doctor confirms that Methe has come to her clinic and disclosed that she cannot sleep because of this crime. An alcohol counseling clinic assesses Methe as low risk of re-offending and confirms she is very sorry for her actions.

The lawyer asks her where the baby was on the night, and she answers, "Oh he was with my mother, and he has started on solid food, but I've left bottles of breastmilk with my mother." If Methe is convicted of this assault, she will find it very hard to get another job. She will be labeled a violent criminal. Her current boss says he will dismiss her. No employer wants to hire a violent criminal. But Methe doesn't want to go to trial and have the police prove beyond a reasonable doubt that she is guilty.

Methe enters a guilty plea to assaulting Bibesia, and her lawyer asks the Judge to order Restorative Justice. Only the Judge can order Restorative Justice. This is directed by 42A of the Sentencing Act 2002 (Appendix A). If Methe tries to approach Bibesia privately to apologize and seek forgiveness, she will be in breach of her bail which requires her not to contact Bibesia. This is because such contact would be a perversion of the course of justice, in that Methe might try to influence Bibesia. Thus, restorative justice is directed and controlled by the Court. The lawyer also asks the Court to not convict Methe but to discharge her without being labeled a violent criminal.

The Government agent arranges and supervises the Restorative Justice meeting between Methe and Bibesia. There are rules which must be followed by everyone in achieving this meeting. Methe explains why they were in town that day, and why they got drunk. She says she didn't mean to hurt Bibesia and says she is sorry. Bibesia is moved by what Methe has said—she also knows one can be hungry when breastfeeding, and the night of alcohol on top of that makes one a little crazy! Methe is shamed, confesses guilt, and expresses remorse.

Bibesia forgives her and admits her part in the event. Bibesia confesses to Methe she too was drunk. She had just broken up with her boyfriend and she says she hit Methe's husband because she was very angry with the world, especially men. Bibesia says she also contributed to the argument, so it wasn't all Methe's fault. Bibesia apologized for pulling Methe's hair so sharply. She excuses Methe from any payment. She says she doesn't want Methe to go to prison. Both Methe and Bibesia cry, they hug one another while they're crying.

This weeping embrace between two wrongdoers is a moment of transcendence. As David Cayley puts it, the transcendent is "the opposite and other of this world with which it was understood to be radically discontinuous."[23] It is the moment of emotional confession and forgiveness that lies outside legal rationality. This moment between the two women was the moment of truth and transcendence, though within the legal grid.

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[23] David Cayley Blog June 11 2021, "Concerning Life: An Open Letter to Jean-Pierre Dupuy and Wolfgang Palaver " https://www.davidcayley.com/blog2021/6/11/concerning-life-1) accessed 1/6/24

The facilitator writes up an account of this meeting in a Restorative Justice report saying that Methe expresses true remorse and Bibesia has forgiven her. Back in court, Methe is standing in the dock. It is humiliating. She is in full view of the public, while the judge reads out the story of her attack on Bibesia. Then the judge adjusts the relative merit and wrong between her and Bibesia and determines her punishment. This is just part of the penalty of the law. It must be borne.

Methe is standing in the dock crying and the security guard gives her the whole box of tissues to use as one won't be enough—the tears are falling quite fast. The Judge mentions the good restorative justice report and discharges Methe with no conviction but orders her to pay seven hundred dollars to Bibesia, towards her expenses.

Unlawful Hunting - Subsistence Livelihood without a License

Paul is found in the State Forest with his dogs, a bag with fishing gear, some small trout (not an indigenous fish), large bloody knives, and a dead pig beside him. There is a river nearby, where trout swim and which can only be fished with a license. The ranger arrests him and takes him 50 km to the nearest police station. Paul is charged with unlawful hunting and fishing without a license, which carries a penalty of two years imprisonment. Paul says he was pig hunting and fishing for a family gathering. He lives on nearby Māori land, which has belonged to his tribe as ancestral land since before colonization (about 1840). Paul doesn't work in paid employment. He hunts, fishes, and maintains his ancestral land for his family. It is his wife who works for money, as an ambulance driver in the town. The boundary between the ancestral land and State Forest land is not clearly marked. Paul's dogs had barked and chased a large boar across the boundary. Paul followed and killed the boar, but it died on the wrong land. He has no hunting license and no fishing license. If the boar had been on his ancestral land, he would not need a license. Paul should have been carrying a GPS (Global Position System) device.

Paul goes to trial saying he had no criminal intention, but the Judge finds him careless and says that carelessness is a type of criminal intention. He is found guilty, and the sentencing begins. For his sentence, Paul is allowed to make a cultural submission under S27 of the Sentencing Act 2002 (Appendix B). S 27 sets out a list of topics within which Paul must fit himself, to show how his cultural background is linked to the crime. He must give the Court advance notice of the time this will take so they can allocate an hour or so for the cultural submission. The Court fixes time according to a schedule, in with other sentences. Paul requests an hour in the schedule. He begins this with his identity speech.

"It is Tongariro the Mountain, It is Taupo-nui-a-tia the lake, It is Tongariro, the river, it is YY the Canoe, Ngāti X the tribe, it is Rangiatua the family…and I am Paul…"

In a rhythmic chant, he has named the significant mountain, lake, river, and canoe that brought his ancestors here from Raiatea / Hawaii up to a millennium ago. He continues by locating himself by name, within the lineage of which he is a part and to which he belongs: his tribe, his family…his ancestors. The moment he begins to identify himself this way, the smell and look of the mountain, river, and lake, come crowding into the courtroom. Judges, police, and lawyers are obliged to remain silent. This is a moment, traveling back in time and spirit to those physical locations of mountain, lake, river, distant land, ancestor, and journey. That old history gives meaning to the hunt in the forest while standing in the courtroom.

Three distinct times come together as one. This is a moment of transcendence from the legal frame, for the defendant and his tribe, and for those who have ears to hear and feel it.[24]

In sentencing such cases, the Judge usually allocates ten percent off the sentence for the Cultural report. The legal process continued. The full sentence was for ten months imprisonment, which means nine months with the cultural discount applied and since a nine-month prison sentence could be converted to a fine and community work, Paul was not sent to prison. He was convicted of criminal trespass, fined seven hundred dollars, his knives were confiscated, he was required to engage in forty hours of community work, and warned that a repeat offense would likely mean imprisonment.

Conclusion

Such existential moments represented by the stories of Methe and Paul are fleeting. They allow for transcending the Law by suspending the legal frame of property allocation or resource management under the assumption of market economics. Such gaps in the grid of criminal law reveal moments whereby a litigant suspends his status as a legal person and becomes a person by stepping outside legal time.

Something called law has persisted since antiquity. But what it is now must be distinguished sharply from that truthful promise, the oath—its breach, the remorse of the accused, and forgiveness of the injured. Modern law governs land and subsistence. Escape from that totalizing grip may only be by way of memory, song, and the oral word—unless something called “resource management” can miraculously re-wild again, rediscover the nurturing wilderness outside the law, over the rainbow.

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[24] In the indigenous worlds that appear when the Law gives it room in the court, the spirits of the earth find a kind of legal standing. Kirsten Anker, "Law as Forest : Eco-logic, Stories and Spirits in Indigenous Jurisprudence" (2017) 21 *Law Text Culture*, p. 191, 203. Reciting one's lineage in a criminal court by reference to mountain, river, lake and tribe is a form of 'minor jurisprudence' which names the kinds of law which promote "existential modes of inhabiting institutional space" Peter Goodrich, "How Strange the Change from Major to Minor" in (2017) 21, *Law Text and Culture*, p 30.

APPENDIX A

New Zealand Legislation Sentencing Act 2002

Sentencing Act 2002 No 9 (as of 01 March 2024), Public Act
24 Adjournment for restorative justice process in certain cases

Sentencing procedure

24A Adjournment for restorative justice process in certain cases

(1) This section applies if-
  (a) an offender appears before the District Com at any time before sentencing; and
  (b) the offender has pleaded guilty to the offence: and
  (c) there are one or more victims of the offence; and
  (d) no restorative justice process has previously occurred in relation to the offending; and
  (e) the Registrar has informed the court that an appropriate restorative justice process can be accessed.
(2) The court must adjourn the proceedings to--
  (a) enable inquiries to be made by a suitable person to determine whether a restorative justice process is appropriate in the circumstances of the case, taking into account the wishes of the victims; and
  (b) enable a restorative justice process to occur if the inquiries made under paragraph (a) reveal that a restorative justice process is appropriate in the circumstances of the case.

Section 24A: inserted, on 6 December 2014, by section 4 of the Sentencing Amendment Act 2014 (2014 No 38). Section 24A(l)(a): amended, on 1 March 2017, by section 261 of the District Court Act 2016 (2016 No 49).

APPENDIX B

New Zealand Legislation: Sentencing Act 2002

Sentencing Act 2002 No 9 (as of 01 March 2024), Public Act 27 Offender may request the court to hear the person on personal, family...

27 Offender may request the court to hear the person on the personal, family, whanau, community, and cultural background of the offender

1) If an offender appears before a court for sentencing, the offender may request the court to hear any person or persons called by the offender to speak on-

  a. the personal, family, whanau, community, and cultural background of the offender:
  b. the way in which that background may have related to the commission of the offence:
  c. any processes that have been tried to resolve, or that are available to resolve, issues relating to the offence, involving the offender and his or her family, whanau, or community and the victim or victims of the offence:
  d. how support from the family, whanau, or community may be available to help prevent further offending by the offender:
  e. how the offender's background, or family, whanau, or community support may be relevant in respect of possible sentences.

2) The court must hear a person or persons called by the offender under this section on any of the matters specified in subsection(!) unless the court is satisfied that there is some special reason that makes this unnecessary or inappropriate.
3) If the court declines to hear a person called by the offender under this section, the court must give reasons for doing so.
4) Without limiting any other powers of a court to adjourn, the court may adjourn the proceedings to enable alternative arrangements to be made to hear a person or persons under this section.
5) If an offender does not make a request under *this* section, the court may suggest to the offender that it may be of assistance to the court to hear a person or persons called by the offender on any of the matters specified in subsection (I).

Compare: 1985 No120 s16

When Dung Beetles Dance

by Marianne Gronemeyer

> "Contemporary man... attempts to create the world in his image, to build a totally man-made environment, and then discovers that he can do so only on the condition of constantly remaking himself to fit it. We now must face the fact that man himself is at stake. …
> A child on the streets of New York never touches anything that has not been scientifically developed, engineered, planned, and sold to someone. Even the trees are there because the Park Department decided to put them there. ... He (the child) can experience the poetic surprise of the unplanned only through his encounter with "dirt", blunder, or failure: the orange peel in the gutter, the puddle in the street, the breakdown of order, program, or machine are the only take-offs for creative fancy." [1]

Ivan Illich wrote this a little more than 50 years ago. And we have now come together here to talk about nature, which, as Ivan convincingly explains, barely existed even fifty years ago because it had almost given way to a "totally man-made environment." How do you talk about something that no longer exists and that we therefore cannot experience? Isn't every clever statement we make about 'nature'—instead of living in and with her as is appropriate to our nature/to the human condition—already a capitulation to the 'technogenic milieu'? Willy-nilly, we are its inmates and have been dancing to its tune for a long time. 'Nature' does not have a good reputation in the technogenic environment; it is seen as

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[1] Ivan Illich, *Deschooling Society*, Penguin Books Ltd 1974, S.108 f.

Marianne Gronemeyer, marianne.gronemeyer@me.com

Gronemeyer, M. When Dung Beetles Dance.
Conspiratio, Fall 2024, p. 256-265

fundamentally in need of improvement, at best suitable as raw material for the fabulous artifacts that the engineer strives to produce. Under his scrutinizing gaze, everything becomes either a means to *his* ends or trash.

Twenty-five years later, Illich's findings are even more depressing: not only the objects of our perception but also our perceptions themselves are already technogenic to a considerable extent. "Both the thing perceived and the mode of perception it calls forth are the results of artifacts that are meant by their engineers to shape their users."[2] Our senses no longer belong to us; they serve other masters. This means we can no longer trust the perceptions they pass on to us.

So how can we talk about 'nature' without coming to terms with her ultimate elimination? We can remember her, mourn her demise, complain about her loss, and endure the pain of our separation. Of course, this is something completely different than getting lost in rescue fantasies and in the wrangling over *Grenzwerte* (the limits) that are supposed to guide how we manage her without destroying her completely. We don't have to save nature, and we cannot. The only thing we must do is not stop nature from saving herself *and us*. Nothing can be saved by the same means that were used to blindly destroy it. Every repaired damage begets new damage, and we rush from one repair to the next, always creating new dangers.

It is true that our remembering nature does not resurrect her. What memory can bring back to us is only a 'substitute.' Our memories are just images of an almost vanished world. Yet, this memory of nature is multifariously richer than the shoddy, blinding, and deceptive replacement that the engineers' fabrication of a 'second nature.'

Memory is *dangerous*. It reminds you that things can be different from the status quo. The advocates of the technogenic milieu are cocksure that their way of acting is the only promising one. They refer to factual constraints, are sure that they are on the right path, are confident about the lack of alternatives, and leave no doubt that saving the world can only be achieved through technical innovations. They stir up a "hatred of the past"[3] and declare war on memory as soon as it dares to refuse its place in the museum.

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[2] Ivan Illich; Philosophy...Artifacts...Friendship, Presentation given to the American Philosophical Association, Los Angeles, March 23, 1996.

David Schwartz, an early companion of Ivan Illich, while traveling through England, visited Manchester, the hotspot of nascent industrialization. Dejected by what he saw, he asked himself: How could people be persuaded to prefer this ugly, artificial, substitute world instead of the world of things that could once be experienced with all our senses? How could earthlings, whose world was once "wild and green" be content with this depressing Manchester-gray?

How could they make themselves more or less comfortable in this "ersatz reality?"[4] Why do people around the world succumb to the fascination of the technogenic environment —even though it is ominous and ugly? It is because the creators of this milieu have succeeded in making them believe that man-made second nature is the only possible one, no, the only one that can exist at all, the only reality that counts. David Schwartz quotes Ivan Illich, who asked his readers to picture "a large, translucent sphere. People live in the center of the sphere. From the outside, a series of projectors throws images of reality onto the sphere, covering it. Looking from the inside, one is seduced into taking the projected scenes for the actual world. The projectors are the reality-producing institutions of the modern world."[5]

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[3] Manfred Osten: *Das geraubte Gedächtnis. Digitale Systeme und die Zerstörung der Erinnerungskultur*, Frankfurt a.M./ Leipzig 2004, S. 21 ff.

[4] David B. Schwartz: Ivan Illich's Concept of 'Rests': Glimpses of a World Past, in: Lee Hoinacki/Carl Mitcham (Editors), *The Challenge of Ivan Illich*, New York 2002, S. 104)

[5] D. B. Schwartz a.a.O. S. 104

If there were no other world beyond this apparent one, then our capacity to perceive would cease to be a critical and reliable guide. The sentence: "But I saw it with my own eyes, heard it with my own ears" that is meant to offer evidence would then collapse powerlessly. The word 'but' would have been eliminated from the vocabulary if everything is as it appears. In short, we would no longer be in our senses once the world had become an image. The fictitious nature of the world that is disconnected from experience is irreversible, if it is hermetic, if those who are enclosed in it—caught up in the delusion of freedom— believe in it without any doubt, i.e., when they rule out the existence and possibility of another world so completely that it can no longer be thought of, let alone longed for.

While traveling through England, David Schwartz experiences the subway, the appropriately named "underground," as a metaphor for the illusionary world that has no outside and does not accept anything else as itself. Ivan Illich calls this phantasmic world a 'beyondless here and now.' (*drübenloses Hüben*) As the traveler stands in a windowless room in the boarding queue at Heathrow Airport, he suddenly realizes that since he got on the tube in central London a while ago, he has practically only been transported 'underground' in a windowless enclosed world. Of course: the subway trains have windows, but if you want to look through them, you have to press your nose tightly against the windows and shield your eyes with your hands so as not to just see the reflection of the brightly lit interior. What then is revealed, on the other side of the window, is nothing but pitch darkness into which the light from the cabin casts a faint glow. But it illuminates nothing; offers nothing to see. It is an experience of oppressive confinement that claustrophobics suffer to the point of panic, but everyone else hardly seems to notice.

Schwartz remembers reading a book about the history of the subways. Its author, Benson Bobrick, describes the beginning of mining almost mythically, like a storming of the underworld, and calls the 'underground cities' of coal and iron 'fiery pits of hell', which ultimately make life above ground like the subterranean one which, as it were, spills out into the world of daylight. Now, the underworld is everywhere, so that *faute de mieux*, people get used to their 'infernal' life and reconcile themselves to it.

Illich also recognized this deceptive world that has no outside and allows no escape, as the epitome of hell. However, the sphere is not yet perfect in its illusory solidity. "There's a crack in everything, that's how the light gets in," sings Leonard Cohen. And David Schwartz explains: "Although there are not many, a few people start to find that it (the illusionary sphere) is full of cracks. And once you see one, it is easy to see other cracks as well. Through these cracks you can catch brief glimpses of a real other world outside," in which completely different things are important and commonplace than in ours, which has a completely different pace than ours, in which life takes place in completely different settings; and people interact with each other and with nature very differently from the modern world we live in, which is characterized by cities, schools, institutions to manage the lonely life of the elderly and the sick, high-speed trains, police cars, and digital networks. The remnants or "rests" of a vanishing world can change our perceptions—"They shine through like tiny bright stars in a cloudy night sky…like the sparkle of stars seen through an overcast night at sea" writes Schwartz.[6] The very poetry with which the 'leftovers' are described is already a rebellion against the regime of the technically and institutionally created parallel world, which has long since subjected our senses and language to its functional laws.[7]

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[6] D.B. Schwartz a.a.O. p. 105.

But what kind of world do we catch sight of, when we become aware of its remnants through the cracks? Illich called it, *faute de mieux*, 'vernacular.' I must admit, that doesn't make me any wiser. I don't know what 'vernacular' means. I can't define it. My dictionaries also fail me. Yet I have an idea, a feeling for how deeply people's attitude to life in vernacular worlds (the plural is essential) differs from my own attitude in the late modern world. This feeling has something to do with memories, with my own, which go back eighty years into the "well of the past" (Thomas Mann), and with stories that penetrate much deeper having been told and retold over the ages. "He who cannot draw on three thousand years / could remain inexperienced / living hand to mouth / in the dark" J.W. Goethe states bluntly.[8]

This much can be said according to the dictionaries and my intuition: the 'vernacular' refers to being of a country and its people, it has to do with native tongue and dialect, with places of origin, with households and neighborhoods, with 'daily toil' and the 'evening-celebration (*feierabend*) of the day's abundance' (which have nothing in common with clock-time work and the evening-entertainment of consumers). None of this has a good reputation in the modern world but rather smells of backwardness, nostalgia, hostility to progress, and above all, of glorifying the past.

To return to the 'glimpses,' those amazing moments in which we, suddenly, gain insight into something that was previously hidden from us, is to experience a shaft of bright sunlight on something that has been obscured for a long time. These unexpected insights are not due to the theory-forming mind but because of a concrete event, a surprising encounter, that touches on something dormant within us. “Theories,” writes Goethe, “are usually the haste of an impatient mind that would like to be rid of the phenomena.”[9] Glimpses have to do with the phenomena themselves. They go straight to the heart. They are not only welcome as confirmation of preconceived hypotheses or theories. There is something that concerns me directly. “Je suis touché,” ‘I am touched’, says Emmanuel Lévinas, to characterize this special moment.[10] ‘Je suis touché’ is a pleasant or painful experience that flashes up—often for no apparent reason.

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[7] Vgl: Uwe Pörksen: *Plastikwörter, Die Sprache einer Internationalen Diktatur*, 2.Auflage, Stuttgart 1988.

[8] J.W. v. Goethe, *Wst-östlicher Divan*, cit. At M. Osten a.a.O. S.11

But the real secret of this moment is that, when it happens to me, I am completely passive and completely active at the same time. Completely passive, because I let it happen to me, and completely active because my senses are wide awake. The eyes used to seeing what is shown to them; the ears that are habituated to the omnipresent noise; the nose, which can be sprayed with the prescribed odors from a can; the tongue, which is dulled by ready-made foods; and the hands, which usually glide over polished surfaces, are all suddenly disturbed, moved, completely focused on the matter. They are confronted with a *real* counterpart (vis-a-vis). A literal change of the sense and the senses (Sinneswandel) has occurred. Let me illustrate what I want to say with a story.

For many years, we Gronemeyers have had the habit of engaging in an extended breakfast conversation when possible. The topic of conversation usually comes from what one or the other of us is currently reading or writing. One morning in Italy we were dealing with really very different issues. I was reading a book about the ‘Jewish roots of modernity’ which was very close to my heart, and Reimer had started studying dung beetles because a colleague had brought him a bestseller from South Africa about dung beetles. We became very interested in them, and as the days went by, we learned more and more amazing things about them. We took a keen interest in their sad new destiny, which condemned them to extinction. Of course, we both knew them and had seen them in droves on our Sunday outings as children. I remembered being disgusted by these black crawlies. Their unappealing name did the rest. But now we became more attached to them every day, and we mourned their quiet, unnoticed passing away, and were reminded that we hadn't seen one in years.

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[9] "Theorien sind gewöhnlich Übereilungen eines ungeduldigen Verstandes, der die Phänomene gerne los sein möchte." Johann Wolfgang Goethe: *Maximen und Reflexionen Bd. 9*, Zürich/Stuttgart 1948ff S, 551, zit. bei M.Osten a.a.O. S.26.

[10] Emmanuel Levinas talking with Florian Rötzer, in: F. Rötzer: *Philosophen im Gespräch*, München 1987, S. 96

Then, after three days of discussion, we found a dung beetle sitting on the red coconut runner on the staircase to the second floor of our Italian house. We couldn't believe it! How did he get there? It really wasn't a classic house insect, like wasps, flies, or ants. The obvious explanation that we only noticed him because of our new-found and acute awareness of his species could in no way explain the fact of his presence. We were faced with a mystery, one of those precious events that unsettles us because our hardened minds, accustomed to having a sober explanation for everything we encounter, are unable to cope with them. We had the feeling that we were involved in an extraordinary event that we should allow to remain reverently mysterious. We carefully moved the beetle into an environment that suited it better than our stair runner and wished him well.

A few days later, on a hike, we saw a shimmering gold fellow crawling on our path and then another, metallic green, another purple one, and then many. And while we were still admiring them in their magnificent colors, as if hearing a silent command, they spread their wings and began to circle around us. The dance of the dung beetles literally took our breath away. I did find an explanation for this mystery, though not of the evidential kind, but a poetic one, which I believe in far more than I do in any so-called scientific proof. We saw them, not because we had dealt with them—'selective perception' is what that is called in technical jargon. Rather, because we leaned towards them, they showed themselves to us. We let them concern us and that is why they had come to us.

I don't know if I should draw a generalized conclusion from this unique experience. Nevertheless, I do so with caution: only when I let myself be concerned by my fellow beings do the creatures, be they living or inanimate, emerge. The fact that they approach me, touch me, and deeply interest me comes from them. It's a story about that blessed moment, when the two happenings come happily together, when their willingness to show themselves is conjoined to my receptivity to them in body, soul, and spirit. The ancient Greeks called this moment the *kairos*. It comes like a thief in the night. We can't make it come, but we can be vigilant so that we don't miss it. The only ability that can help us is the ability to marvel and be surprised, an ability that is as threatened with extinction as the dung beetles. We can still practice it and regain it step-by-step, though not in digitized conferences but only in convivial cooperation.

Did I feel something like satisfaction after this wondrous, meaningful encounter? No, I don't think so. It was more akin to happiness, to gratitude, and the feeling of having been a better person for a moment. The ancient Greeks had a word that enchants me, not only for this special moment but also for the forces at work in it: *dynamis*. There's nothing inherently mysterious about *dynamis*. It describes a completely logical and understandable fact: "Every active ability to bring about a certain change corresponds, on the part of the things in which this change can take place, to a passive ability to suffer it."[11] Doesn't it sound plausible? If I want to cause an effect on something, then I need a counterpart who can bear or suffer my intention. The word *dynamis* describes both the work and the suffering as capacities. Both are equal to the other, and each conditions, complements, and limits the other. They are complementary. But more than that, to be truly adequate in this constellation of two, neither side must be only active or only passively suffer. An almost imperceptible constant switch between effectiveness and the art of suffering takes place between the two sides of this relationship. When *dynamis* is at work, each of the two sides is at home in both arts, in working and being active on the one hand and in enduring, suffering, and being passive on the other hand. Only in such dynamic interaction can *dynamis* unfold.

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[11] Ottfried Höffe (Ed.) *Aristoteles-Lexikon*, Stuttgart 2005, S. 140.

As Hannah Arendt has pointed out, modern man is a *Homo Faber.* The engineer's calculating mind has no use for the art of suffering. All he knows about suffering is that it is an evil that must be overcome. He bets everything on the card of effective power through technical upgrades. The dung beetles have lost their say and *homo faber* has lost his ability to stop. He must keep going.

'Aufhören' is a wonderful, insightful German verb. It has a profound double meaning: 'aufhören' means both to listen to something, to prick up one's ears, to hear intensely (Latin: audire, English: to listen) and to cease, to end something, to complete something (Latin: finire, English to finish). That is to say that I can only end something (*finire*) if I listen to someone or something that touches me (*audire*). But the reverse also applies. I can only listen to something, listen carefully, if I stop everything else and stand attentively with bated breath, just as we did when amazed by the miracle of the dung beetle on the step.

The intention to rescue or save nature from dying remains entirely committed to the desire to *produce* change. Without the other side of *dynamis*, without the readiness to stop one's activity to listen, these good intentions will not achieve anything good but will only cause further irreparable damage.

CARRO

pa
P

oceano vertical

*56. temo recordar que o corpo é um oceano vertical. tudo flui... subindo e descendo assi
ade. procuro nos dias de espuma me acalmar. sentado no banco azul do vagão do metrô
como estou sob luzes artificiais tão brancas e tão insólitas que mesmo de olhos fechados
simplesmente cruzar as pernas. elas estão inchadas. então o trem sai do túnel para os a
entre as estruturas. desço no centro de São Paulo. venho da região norte onde uma pequ
tadas para distraí-las. as raízes da montanha teimam em se esconder. mas de vez em q
lisa e depois as pedras rugosas embaladas no limo preto e verde. quando rolam para ba
totalmente clareado pela outra parte que se desfaz. peito aberto arranhado e manchado
sanidade passageira. mesmo parado sou uma parte do oceano. mesmo parado somos u
delicadamente procurando o ar em meio a fumaça. o pó. a lama que invariavelmente m
rosto em qualquer parte e mesmo parado seríamos de uma vez por todas flautas divina
sim tocar. tocaria a melodia do deslocamento. veria o corpo de vento que viaja pelas lat
transparência da luz e das sombras por que seríamos a confluência fragmentada dos pá*

*57. na mesa inesperadamente pousa uma mariposa. faz calor. a janela está aberta. as es
mão como a flor noturna e carnívora para abrigar o que é passageiro e delicado: o temp
visível que nos tornamos a medida que envelhecemos com as asas quebradas feito facas
acumulados no corpo. ouço os órgãos trabalharem a noite. luto para não dormir. sangr
sentimentos híbridos baterem nas paredes. nas estantes. na luz. pousando nos frisos de
do em pontos distantes do quarto que começa a me beliscar. "vem dormir"... diz uma vo
consigo identificar na alegria e na tristeza salobra de um lago de afeto próximo da cam
escada segurando o corrimão. pombos voam em uma área aberta e ensolarada assim q
banquisa de corais expostas na maré sigo descalço sobre imagens que acendem e doem.
outro mundo. a memória aperta a carne e não quer partir.*

*58. me desconecto e não quero partir. estou preso ao anzol e as víceras. andando pela ci
o rosto cheio de espuma. os olhos nublados pelas horas. a lâmina passa pela garganta co
natural. rodopio ao redor do aquário preto e branco de um desenho amassado. a paisag
o peito fico parado com uma trouxa de livros e roupas sob a cintura. transportado até a
da tarde. alcanço o brilho da prata de São Miguel. o sono começa a partiras paredes de
segundos.*

Ulysses Bôscolo
Diário – o sono da casa escura. Poemas reunidos, 2024.

*m como os pensamentos que navegam por lugares diferentes sob determinada velocid-
ò tenho o temor do escuro. o medo antigo que projeta imagens do tempo. o vidro reflete
vejo a porção estranha que me escapa e deseja sair. nesta cápsula de metal não consigo
rcos de concreto sobre as casas e mais casas. prédios e mais prédios com poucas árvores
uena cadeia de montanhas faz uma curvatura sobre a ferida de edifícios em ruas plan-
uando ocorre um deslizamento. o suor do céu descasca a mata para dar lugar a terra
ixo homens velhos seguram flores no rosto. alguém espera sozinho num canto do vagão
como as praias do nordeste. o corpo como um barco fora da água. por isso temo pela
na parte dos rios aéreos. talvez um peixe sangrando sob a madeira. as guelras afiadas
olda os órgãos de cerâmica. se os orifícios fossem visíveis o vento poderia entrar pelo
s. cada qual com sua música interna e externa e não teríamos mais o que falar mas
itudes. teríamos no conjunto coletivo a forma da água e ganharíamos perigosamente a
ssaros ao redor de uma árvore no final da tarde.*

*strelas cinzentas desejam devorá-la. o inseto pequeno agita as asas e procuro abrir a
o entre nós. na ponta dos dedos a mariposa descansa. o coração do átomo. este oceano
mergulhadas na maresia. mas é o ar que corta camadas e mais camadas de sonhos
ando sem ver o sangue deixo a mariposa partir e observo a mão-flor vazia. cheia de
alumínio até serem mordidos pelas sombras camufladas de amarelo estranho pendura-
z feminina. “vem dormir.” diz a voz masculina. “vem dormir... “ dizem as vozes que não
a desarrumada. fico observando o colchão. um peixe vem a superfície. desço por uma
ue caminho pelo pátio. alguém dorme sobre trepadeiras. ninguém se importa. como uma
molho a canela. despacho as armas leves que escondo quando decido me entregar ao*

*dade viva me deparo com um gesto de amor: dois homens – um faz a barba do outro –
omo se a mão puxasse de lá ovas de peixe... ovas de peixe sobre a areia. a mão é uma pá
rem convoca ligeiros assobios. pergunto ao demônio a sua idade. estendendo o braço até
feira arranco o mamão pendurado numa barraca. com os dentes mordo o alaranjado
cristal. podemos ser o que desejarmos. a chuva bate no rosto de sal que se desfaz em*

vertical ocean

56. i fear remembering that the body is a vertical ocean. everything flows... rising and fa to calm down on foamy days. sitting on the blue bench of the subway car i fear the dark. i am so white and so odd that even with my eyes closed i see the strange portion that esc swollen. then the train leaves the tunnel and heads for the concrete arches over houses a get off in downtown São Paulo. i come from the northern region where a small mountai the mountain insist on hiding. but every now and then there is a landslide. the sweat of packed in black and green slime. when they roll down, old men hold flowers to their fac that is falling apart. open chest, scratched and stained like the beaches of the northeast. standing still, i am a part of the ocean. even standing still, we are a part of the aerial riv amidst the smoke. the dust. the mud that invariably shapes the ceramic organs. if the or still we would be, once and for all, divine flutes. each one with its own internal and exte melody of displacement. i would see the body of wind that travels through the latitudes. gain the transparency of light and shadows because we would be the fragmented conflue

57. on the table a moth unexpectedly lands. it's hot. the window is open. the gray stars w nocturnal and carnivorous flower to shelter what is fleeting and delicate: the time betwe become as we grow older with our wings broken like knives dipped in the sea air. but it's the organs working at night. i fight not to sleep. bleeding without seeing the blood i let th shelves. the light. landing on the aluminum friezes until they are bitten by the camoufla me. "come sleep..." says a female voice. "come sleep." says the male voice. "come sleep..." sa tion near the unmade bed. i stand watching the mattress. a fish comes to the surface. i g through the courtyard. someone sleeps on creepers plants. no one cares. like a coral reef dispose of the light weapons that i hide when i decide to surrender to the other world. m

58. i disconnect and i don't want to leave. i'm tied to the hook and the entrails. walking other – their faces full of foam. their eyes are clouded by the hours. the blade passes thro the hand is a natural shovel. i spin around the black and white aquarium of a crumpled arm to my chest i stand still with a bundle of books and clothes under my waist. transpo orange of the afternoon. i reach for the shine of the silver of Saint Michael. sleep begins t melts away in seconds.

Ulysses Bôscolo.
Diary – the sleep of the dark house. Collected poems, 2024.

lling just like thoughts that navigate through different places at a certain speed. i try
.. the old fear that projects images of time. the glass reflects how, under artificial lights,
apes me and wants to leave. in this metal capsule i can't simply cross my legs. they are
nd more houses. buildings and more buildings with a few trees between the structures. i
in range curves over the wound of buildings on streets laid to distract them. the roots of
the sky peels away the forest to make way for smooth earth and then the rough stones
es. someone waits alone in a corner of the wagon, completely whitened by the other part
the body like a boat out of the water. that is why i fear for the temporary sanity. even
ers. perhaps a fish bleeding under the wood. the sharp gills delicately searching for air
ifice were visible, the wind could enter through the face anywhere and even standing
rnal music and we would have nothing more to talk about but to play. i would play the
we would have the shape of water in the collective whole and we would dangerously
ence of birds around a tree at the end of the afternoon.

vant to devour it. the small insect flaps its wings and i try to open my hand like a
en us. on my fingertips the moth rests. the heart of the atom. this visible ocean that we
the air that cuts through layers and layers of dreams accumulated in the body. i hear
e moth go and watch the empty flower-hand. full of hybrid feelings hit the walls. the
ged shadows of strange yellow hanging in distant points of the room that begin to pinch
ay the voices that i cannot identify in the joy and the brackish sadness of a lake of affec-
o down a ladder holding the handrail. pigeons fly in an open and sunny area as i walk
exposed in the tide i walk barefoot over images that light up and hurt. i soak the shin. i
emory tightens the flesh and does not want to leave.

through the lively city i come across a gesture of love: two men – one is shaving the
ugh the throat as if the hand were pulling fish eggs from there... fish eggs on the sand.
drawing. the landscape summons slight whistles. i ask the devil his age. stretching my
orted to the street market i tear off the papaya hanging on a stall. with my teeth i bite the
o break the crystal walls. we can be whatever we want. the rain hits the salt face that

MUITO FO

Translations

La Costruzione Sociale del Concetto di Energia

di Ivan Illich

Translation by Nicola Labanca and Antonio Airoldi

Preambolo dei traduttori

Il testo qui proposto in traduzione è quello della conferenza tenuta da Illich nel luglio 1983 presso El Colegio de México, in occasione dell'inaugurazione del seminario su "The Basic Option Within Any Future Low- Energy Society". Col titolo *The Social Construction of Energy* tale testo è apparso per la prima volta sulla rivista della Graduate School of Design dell'Università di Harvard «New Geographies 02» nel 2009, nel numero monografico *Landscapes of Energy*; è stato poi pubblicato in francese su «Esprit», nel numero di agosto-settembre 2010, all'interno di un dossier sulla *Actualité d'Ivan Illich*.

Non è casuale che, nel contesto di un dibattito sempre più ampio sul declino della società del petrolio e sulle alternative energetiche desiderabili, si decida di attingere al cantiere illichiano. Proprio Illich, infatti, fin dai primi anni Settanta del Novecento, con *Energy and Equity* ha cominciato a sollevare domande impertinenti sulla cosiddetta "crisi dell'energia" e a passare al setaccio, demistificandole, le promesse mitopoietiche della società ad alta intensità energetica.

Considerata e poi scartata da Illich e Valentina Borremans l'opportunità di pubblicarlo in *The Mirror of the Past* (1992, trad. it. *Nello specchio del passato*, Red Edizioni), il testo della conferenza rimase ai margini della più nota bibliografia di Illich, risultando accessibile solo ai suoi più stretti collaboratori.

Sul tema della storia dell'energia come costruzione sociale, affrontato nella conferenza del 1983, Illich non

Ivan Illich.
Illich, I. La Costruzione Sociale del Concetto di Energia
Conspiratio, Fall 2024, p. 279-305

è più tornato in modo esplicito negli anni successivi. Ciò non deve sorprendere. Qui, come in altre occasioni, il "filosofo itinerante" appare impegnato nel dissodare campi di ricerca fino ad allora lasciati incolti, formulando ipotesi di lavoro innovative e provocatorie senza preoccuparsi troppo di dare loro una veste compiuta, sollecitando altri interlocutori a collaborare, a completare l'opera, ad approfondire e correggere. Come ha notato D. Cayley, "questa sua curiosità indefessa, insieme con il respiro trans-disciplinare delle sue indagini, ha fatto di lui un pensatore talora più interessato a far avanzare la frontiera su cui stava lavorando che non a spiegare fino in fondo i presupposti su cui il proprio lavoro era basato" (*Postfazione* a I. Illich, *I fiumi a nord del futuro*, Quodlibet, 2009, p. 262). Tra coloro che hanno raccolto e approfondito le sollecitazioni e gli stimoli illichiani sul tema dell'energia possiamo citare almeno J. Robert e W. Sachs, entrambi partecipanti al seminario del luglio 1983.

La conferenza di Illich al Colegio de México prende forma in una congiuntura che viene considerata un tornante decisivo nella biografia intellettuale del pensatore. Conclusa ormai la stagione dei pamphlet, e preso atto che le strutture sociali erano state in grado di neutralizzare le istanze di rinnovamento più autentiche, Illich dà avvio a una fase di ripensamento radicale della sua metodologia d'indagine per comprendere un presente in cui si annunciano profonde "rotture epistemiche". Grazie anche alle conversazioni svolte con il linguista U. Poerksen e all'incontro con la storica B. Duden, Illich denuncia i limiti della griglia analitica "monoculare" utilizzata negli anni Settanta, cercando un solido ancoraggio nella conoscenza del passato.

Al libellista subentra gradualmente lo storico: muovendosi nella dimensione della lunga durata, ma con una sensibilità particolare per i momenti di discontinuità del tessuto storico, Illich scava nel terreno in cui è cresciuta una categoria particolare di parole-chiave della modernità da lui successivamente definite *parole ameba* (lavoro, sessualità, energia, informazione, bisogno fondamentale, ecc.) e per le quali l'amico U. Poerksen usa l'espressione "parole di plastica" (*Plasticwörter: Die Sprache einer internationalen Diktatur*, Klett-Cotta, 1988, trad. it. *Parole di plastica. La neolingua di una dittatura internazionale*, 2011). Illich si preoccupa di mettere in evidenza come queste parole abbiano compiuto un viaggio del tutto particolare che le vede sovente nascere nel linguaggio di uso comune, essere adottate dalla scienza, per denotare in maniera sintetica e non ambigua concetti teorici con un limitato ambito di applicazione, e ritornare al linguaggio comune nella veste di termini che conservano l'autorità e il lustro della scienza, ma sono usati solo raramente in maniera precisa e appropriata. Questi termini sono impiegati per parlare in nome della scienza, ma si riferiscono a qualcosa di completamente diverso nel quotidiano; collegano due domini distinti e hanno sovente in questi significati così diversi che richiederebbero l'impiego di due parole differenti. U. Poersken fa osservare che nel quotidiano queste parole svolgono il ruolo di uno stereotipo che sostituisce termini convenzionali più precisi e, condensando in un'espressione un enorme campo di esperienze, divengono estremamente povere di contenuto. Sembrano riferirsi a qualcosa che è sempre esistito e che, come tale, è fuori dalla storia. Attraverso esse la storia è trasformata nel laboratorio che ha permesso di portare alla luce quanto definiscono e il loro impiego è esentato da valutazioni di carattere morale. Generano bisogni e uniformità e determinano la creazione di una élite di esperti per cui rappresentano una risorsa.

Il testo qui tradotto – cronologicamente vicino a *Shadow Work* (1981, trad. it. *Lavoro ombra*, 1985) e *Gender* (1982, trad. it. *Il genere e il sesso*, 1984) – ci mostra insomma l'Illich archeologo delle certezze moderne. Identificando nel

concetto di energia uno degli assiomi fondamentali della topologia mentale prodotta dalla modernità industriale, l'autore mette in luce come esso rinforzi una percezione della realtà dominata dal postulato della scarsità.
Il lettore è invitato a compiere un viaggio per prendere le distanze dalle superstizioni che crescono all'ombra della teologia dell'energia e che il credente Illich, con tensione apofatica, indica al pubblico laico a cui si rivolge. Un viaggio da intraprendere tenendo gli occhi ben fissi al presente, a cui far ritorno con una consapevolezza diversa, che ci aiuta ancora oggi – nella stagione della green economy - a non farci sedurre dal "*Paese delle meraviglie che appare attraverso le lenti dell'energia*" (J. Robert, *Energy*, in http://www.pudel.uni-bremen.de).

La Costruzione Sociale del Concetto di Energia

C'è poco in comune tra il simbolo «E» delle formule dei fisici e il termine «energia» impiegato da un economista, un politico o un sostenitore delle pale eoliche. «E» è un algoritmo, «energia» è una parola carica di senso. «E» ha un significato solo all'interno di una formula, «energia» è un termine pieno di implicazioni nascoste: si riferisce a un «qualcosa» di sottile che ha l'abilità di far compiere del lavoro alla natura. Anche l'ingegnere che si esprime abitualmente in termini di *megawatt* parla di «energia» quando si rivolge a un suo cliente. L'energia, come il lavoro prima di lei, è diventata qualcosa di cui le società e gli individui hanno bisogno. E' il simbolo della nostra epoca, un simbolo di qualcosa allo stesso tempo scarso e abbondante.

«E», il concetto teorico, ed «energia», il costrutto sociale, sono nati come *gemelli siamesi*. Intorno alla fine del diciannovesimo secolo, quasi cinquantenni, si erano già trasformati in sosia antagonisti. «E» era maturato in quelle serre della scienza che sono i laboratori. Ogni suo nuovo comportamento bizzarro, ogni sua nuova variazione è stata attentamente monitorata. Nel corso della sua evoluzione, le regole di impiego di questo simbolo sono state incorporate nella sua teoria. Nelle parole di Einstein, «E» divenne parte «della teoria che decide quello che un fisico vede». L'«energia», nel frattempo, si elevò sino al trono dell'Onnipotente e divenne una metafora di ciò che oggi chiamiamo «bisogno fondamentale». «E» si trasformò in un concetto astratto e fuori dalla portata dell'immaginazione, mentre l'«energia» divenne allo stesso tempo qualcosa di misterioso e triviale, esentato da e apparentemente non meritevole di esame critico. Oggi i due nati da parto gemellare generano due tipi di discorso così estranei che molto difficilmente possono essere tradotti l'uno nell'altro.

L'invenzione della forza lavoro

Io non voglio aggiungere nulla a quanto già si conosce intorno a «E». In questo scritto non tratto neanche di quell'energia «libera» e «legata» a cui Sigmund Freud si riferiva parlando di sessualità, argomento questo che meriterebbe un altro saggio. In questa sede non voglio nemmeno commentare i tentativi fatti da Georgescu Roegen di interpretare il «funzionamento» dell'ordine sociale in termini termodinamici. Non mi occupo, infine, neanche di quegli storici che hanno tentato di integrare la storia economica con una storia dei processi di trasformazione energetica (mi riferisco agli storici ispirati da Friedrich Wilhelm Ostwald all'inizio del Novecento, da Leslie White Jr. verso la metà del secolo e ai molti mistici dell'energia contemporanei per i quali il progresso si riflette nella capacità della società di appropriarsi dell'energia). L'interpretazione dell'economia come un caso speciale della termodinamica, l'interpretazione della società come un sistema autoregolato di scambi energetici o il tentativo di interpretare l'evoluzione sociale in termini di un aumento del controllo sociale sui flussi di energia, a mio parere sono tutte analogie seducenti ma zoppicanti.

Le ragioni per cui mi occupo della storia dell'«energia» sono diverse. In questo simbolo verbale che emerge gradualmente io riconosco lo strumento attraverso il quale la natura è stata interpretata come un dominio governato dall'assioma della scarsità e gli esseri umani sono stati ridefiniti come suoi clienti in condizione di costante bisogno. Una volta che lo stesso universo è posto all'interno di un regime di scarsità, uomini e donne non nascono più sotto le stelle ma sotto gli assiomi dell'economia. Per giustificare questa conclusione devo esaminare brevemente le radici semantiche del termine «energia» e mostrare come esso, che designava originariamente il «vigore umano», sia grottescamente passato a indicare il «capitale della natura».

In greco la parola *enérgheia* è usata frequentemente e con un senso forte. Potrebbe essere meglio resa in italiano da «in divenire», con tutte le sfumature proprie di questa espressione. Nella sua versione latina, *in actu*, il termine è di centrale importanza nella filosofia medievale e significa forma, perfezione, atto, in contrasto con la mera possibilità. Nella sua versione inglese, la parola fa la sua prima comparsa nel sedicesimo secolo. All'epoca della regina Elisabetta I, *energy* denota il vigore di un'enunciazione, la forza di un'espressione, sempre in riferimento alla qualità di una presenza personale. Un centinaio di anni dopo la stessa parola viene impiegata per qualificare un impatto impersonale: il potere persuasivo di un argomento o la capacità della musica di chiesa di generare un effetto sull'anima. Il termine è ancora usato esclusivamente per denotare effetti psichici generati da persone o cose.

Durante il diciassettesimo secolo ha avuto luogo il tentativo di quantificare le forze della natura. Leibniz parlò di una grandezza che rimane inalterata qualunque cosa accada, «come la moneta quando è scambiata». Nel diciottesimo secolo la *vis viva*, la forza viva dell'universo, diviene una quantità di moto, un importante concetto per i filosofi naturalisti: collisioni, forze elastiche, sfere in rotazione divennero oggetti di studio e ogni lingua europea si arricchì di nuovi termini per designare i diversi tipi di forza o di efficacia trasmessi, indicati di volta in volta come $m \cdot v$, $m \cdot v^2$, $(1/2) m \cdot v^2$. Questa *vis viva* fu ribattezzata da Thomas Young e fu chiamata «energia» (*energy*).

Nel 1807 egli scrisse che il termine «energia può essere applicato assai rigorosamente al prodotto della massa o del peso di un corpo per il quadrato del numero che esprime la sua velocità». Paradossalmente il temine «energia», usato durante i precedenti 300 anni per designare la forza espressiva di un volto o l'intensità di un'affermazione, fu applicato per la prima volta per designare «la forza della natura» precisamente nel momento in cui tutte le scienze naturali stavano negando sistematicamente la vitalità di questa natura, la sua *Lebenskraft*. Comunque, l'impiego che Young fece di questo termine non prese piede. Ci vollero altri quarant'anni prima che l'«energia» entrasse nella terminologia della fisica per designare, in contrasto con la definizione di Young, un «qualcosa» di distinto da una forza. Nella fisica moderna l'«energia» è distinta da una forza come l'integrale dalla sua funzione.

Il termine «energia» poté diffondersi ampiamente solo in seguito a questa distinzione. Esso non fu mai associato alla natura, fintantoché ci si riferì a questa come a una «madre». A partire dal 1844, secondo Liebig, la natura era divenuta l'unica «matrice» di forze distinte quali l'elettricità, il calore, la luce e il magnetismo, che potevano essere misurate in termini di unità di lavoro. Questo slittamento semantico è sorprendentemente simile a quello avvenuto nel linguaggio dell'ostetricia. Fino agli inizi del diciottesimo secolo erano le donne che partorivano i figli, donne sgravate della prole da altre donne. Dopo il 1820 è un bioingegnere, il ginecologo, che estrae dalla matrice il bambino e il bambino cresce e si trasforma in forza lavoro.

Durante la prima metà del diciannovesimo secolo i fisici costruirono qualcosa di simile alla forza lavoro: i valori equivalenti e misurabili delle quantità di calore, dell'elettricità e dei movimenti meccanici. Un inglese fece bollire dell'acqua praticando un foro con un trapano rudimentale in un cilindro metallico destinato a divenire un cannone e calcolò l'equivalente tra la pressione del vapore prodotto e lo sforzo compiuto dal cavallo usato per far ruotare il trapano. Un altro ottenne calore sfregando due blocchi di ghiaccio l'uno contro l'altro e mise in relazione l'ammontare di acqua ottenuta con la fatica spesa. La ricerca di una sorta di *gold standard* in natura condusse così a un nuovo tipo di metafisica sperimentale consistente nell'ottenere in laboratorio le prove dell'esistenza di entità che *non* possono essere osservate. Il postulato dell'esistenza oggettiva di qualcosa di costante che non fa che cambiare la sua forma assumendo sembianze misurate e osservate con sempre maggior precisione divenne la nuova mitologia scientifica.

Sebbene, ovviamente, nessuno l'avesse osservata – e per un decennio non vi fosse accordo sul termine da usare per definirla – Julius Robert von Mayer (1842), Hermann von Helmholtz (1847), William Thomson (futuro Lord Kelvin) e numerosi altri, lavorando indipendentemente, definirono questo «qualcosa» come la capacità della natura di compiere un lavoro. Il «lavoro» divenne una grandezza fisica negli anni dal 1842 al 1847 e l'energia divenne la sua fonte. Il «lavoro» fu definito come la produzione di un cambiamento fisico e l'energia fu assunta come la sua causa metafisica.

Può essere importante ricordare che durante il secondo quarto del diciannovesimo secolo, uno stesso mito scientifico trovò la sua espressione in tre immagini: l'utero divenne la fonte della vita, l'universo la fonte dell'energia e la popolazione la fonte della forza lavoro. Mi concentrerò qui sui tratti comuni della seconda e della terza immagine. Allorché una *Arbeitskraft*, una forza lavoro, fu associata all'attività umana nella misura in cui questa attività risultava produttiva, l'«energia» fu associata alla natura nella misura in cui questa produceva lavoro. Attraverso questa attribuzione, la natura fu rimodellata secondo l'immagine inedita dell'essere umano concepito come lavoratore. La natura, ora considerata come matrice e deposito di una forza lavoro chiamata «energia», divenne così lo specchio del proletariato e la matrice di tutta la forza lavoro disponibile. La macchina a vapore era in agguato dietro ogni rappresentazione del reale.

L'orologio aveva svolto la funzione di simbolo unificatore all'epoca delle monarchie assolute del sedicesimo e diciassettesimo secolo. Con i suoi automi danzanti al rintocco delle ore e il suo teatro di sfere cosmiche, l'orologio del sovrano non fu primariamente uno strumento per misurare il tempo. Esso offrì lo spettacolo dell'armonia razionale in medicina, nell'organizzazione di parate o nell'arte di governare, mostrando la necessità di un'autorità cosmica sui corpi, sui pianeti e sui sudditi. Ma le ruote dell'orologio non avevano né libertà, né autonomia e per questo la loro immagine divenne insopportabile agli occhi dei protestanti politici e religiosi inglesi alla fine del diciassettesimo secolo. La macchina che si autoregola diventò così il simbolo della monarchia costituzionale, l'immagine di un nuovo ordine basato su forze che si autobilanciano e sull'equilibrio dinamico di domanda e offerta. Tuttavia, queste macchine cartesiane non erano concepite per «lavorare», al contrario della nuova macchina che guida l'epoca della termodinamica. Quest'ultima è il simbolo dell'era della produzione, degli *input* e degli *output*. Da qui in avanti la natura, l'utero, la popolazione e persino l'antico orologio saranno percepiti come strumenti che compiono un lavoro. La prima macchina a eseguire un lavoro fu quella a vapore, seguita dalla dinamo inventata da Faraday nel 1831 e trasformata in motore elettrico dopo essere stata accidentalmente impiegata al contrario durante l'esposizione universale di Vienna del 1873. Infine, il motore a combustione interna completò il successivo terzo stadio di un mondo moderno che «lavora».

Nel 1827 Joule, alla ricerca di una parola per indicare «l'unità di lavoro svolto da un'unità di carburante», scelse la parola *duty*, definendo così il «rendimento» o l'«efficienza» di un motore come il «dovere» di fornire una data quantità di lavoro. La riduzione della nozione di dovere alla prestazione di lavoro produttivo da parte degli uomini e di lavoro di riproduzione da parte delle donne, così caratteristica del secondo quarto del diciannovesimo secolo, si estese quindi anche alla macchina. Alla fine di questo breve lasso di tempo, «*tutta la cosiddetta storia del mondo non è altro che la generazione dell'uomo mediante il lavoro umano*»[1] (Marx). L'invenzione simultanea di questi due distinti «potenziali di lavoro», l'energia e la forza lavoro, merita di essere esplorata ulteriormente. Questo, tuttavia, rende necessario ritornare alla storia di «E» per evitare ogni possibile confusione tra «E» e l'«energia».

Una forza unificatrice

Il primo tentativo di scrivere la storia del «principio di conservazione», formulato in maniera completa venticinque anni prima da Helmholtz, fu intrapreso da Ernst Mach nel 1872. Mach però non scrisse sulla conservazione dell'«energia», ma sulla conservazione di una entità chiamata lavoro. Il primo che tentò esplicitamente di scrivere la storia di «E» fu invece Max Planck, all'età di ventisei anni. Egli provò a escludere tutte le ipotesi intorno alla costituzione della natura o del calore, ogni riferimento al movimento di corpuscoli o di fluidi imponderabili. Era interessato alla misurazione delle manifestazioni della natura in termini di lavoro e alla storia del corrispondente sistema di contabilità. Con il suo scritto Planck tentò, senza riuscirvi, di vincere il primo premio in una competizione alla Facoltà di filosofia di Göttingen nel 1884. Per Planck era ovvio che il concetto di «energia», che egli voleva studiare nella sua evoluzione storica, deriva tutto il suo significato in fisica dal principio di «conservazione dell'energia» e dall'idea che «è impossibile ottenere lavoro senza compensazioni». Planck mostra che l'idea era stata concepita e formulata intorno al 1840 e che a partire dal 1860 non vi era alcun dubbio sulla sua validità. Non ho trovato in questo primo articolo di Max Planck neanche il minimo sospetto che il linguaggio utilizzato nella formulazione dei principi della fisica potesse essere generatore di costrutti sociali.

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[1] *Manoscritti economico-filosofici del 1844*, Einaudi, Torino, 1978, pag. 125

Tuttavia, nello stesso periodo Mach aveva già iniziato a separare l'«energia» da «E» e aveva così compiuto i passi necessari al divorzio che provocò la fine di cinquanta anni di termodinamica classica. Per Mach è inammissibile postulare l'esistenza di qualcosa come una forza lavoro dietro i fenomeni osservati se lo scienziato non è in grado di verificare ciò attraverso un esperimento diretto. Mach non negava la convenienza di una tale ipotesi; auspicava soltanto che le persone che se ne servivano fossero consapevoli che si trattava di una supposizione. La scelta di una tra molte ipotesi applicabili, secondo Mach, doveva essere fatta interamente in base all'eleganza con cui tale ipotesi – come, per esempio, l'«energia» – si integra all'interno di formule che mettono in relazione eventi osservati. La sua controversia con H.R. Hertz rese chiaro questo punto. Hertz aveva descritto la natura trasversale della propagazione delle onde elettromagnetiche nello spazio senza far riferimento a «E». Mach sollevò le sue obiezioni non perché avesse identificato dei punti deboli nella dimostrazione di Hertz, ma perché riteneva che l'impiego di «E» avrebbe reso possibile una descrizione più elegante del fenomeno. Quanto ad Einstein, egli mantenne una posizione priva di ambiguità durante tutta la sua vita riguardo a entità come «E», sostenendo che «non possono essere derivate logicamente dall'esperienza, ma devono essere intese come libere creazioni dello spirito umano». A partire dall'inizio del diciannovesimo secolo, chi si serviva di «E» identificava questo concetto teorico con un costrutto impiegato per designare lo stato di un campo. I filosofi kantiani lo interpretavano come la formulazione fisica del principio di causalità. Poincaré lo ridusse a una mera tautologia. Attorno al 1920 i pochi che ancora cercano una interpretazione meta-matematica di «E», descrivono questo concetto come la conseguenza di una simmetria di campi o come una conseguenza dell'omogeneità del tempo, qualcosa che nella teoria della relatività e in meccanica quantistica gioca un ruolo che ricorda lontanamente quello della regola aurea nell'architettura greca: una manifestazione del *logos*.

Via via che si accrebbe il prestigio della fisica teorica moderna non fu facile mantenere la sobrietà di Mach ed Einstein. Le persone relegate all'esterno del cerchio magico creatosi attorno a «E» guardarono agli alchimisti accademici come ai detentori delle chiavi delle ricchezze ultime o come agli iniziati a una nuova mistica. Non pochi fisici iniziarono ad assecondare il pubblico vendendo un'idea di energia come attributo di una realtà ultima. Nel 1892 Friederich Paulsen sviluppava dietro l'etichetta dell'*energetismo* l'idea che l'etica, molto più della matematica, doveva essere interpretata come l'altra faccia della fisica: entrambe trattavano della perfezione dell'essere attraverso la sua attività, il suo lavoro. Il più illustre rappresentante della nuova «energetica» fu senza dubbio Wilhelm Ostwald. Insignito del premio Nobel per la chimica nel 1909, editore di prestigiose pubblicazioni scientifiche, tra cui più di 200 volumi sui classici della scienza, inventore di un sistema di classificazione dei colori, quest'uomo dedicò il suo *opus magnum* a Ernst Mach. In numerosi libri di rilievo egli presentò l'«energia» come la sola sostanza reale, il substrato comune di corpo e anima. A suo parere, il secondo principio della termodinamica era alla base dell'economia e dell'etica. «Tutta la vita è una lotta per l'energia libera disponibile in quantità sempre scarse» (1913). Valutazioni, scelte, azioni (*das Wollen* – più precisamente la volizione) possono essere ridotte a termini energetici che comprendono la realtà materiale e spirituale. Tra il 1911 e il 1916 Ostwald pubblicò regolarmente dei sermoni domenicali per l'Associazione Monista Mondiale di cui divenne presidente. Quanto in Ostwald appariva come l'elucubrazione di un fisico chimico trasformatosi in pseudo-filosofo perse il suo valore di novità con l'avvento della Seconda Guerra Mondiale. In modo piuttosto sbrigativo, Heisenberg esprime le stesse convinzioni nella forma di un credo nel corso delle sue *Gifford Lectures* del 1956-1957: «La sostanza di cui tutte le particelle elementari e tutte le cose sono fatte … che causa il cambiamento e che cambia essa stessa senza mai andare perduta … che può essere trasformata in movimento, calore, luce, tensione … questa sostanza si chiama energia». Nella misura in cui «E» diveniva sempre più esoterica, un crescente numero di fisici iniziò a comportarsi come guru autoproclamati che divulgavano la sua vera natura. Una volta che, con il loro prestigio, famosi fisici avevano dato credito all'interpretazione dell'energia come il *Capitale* fondamentale della natura, il principio di «conservazione dell'energia» divenne la conferma cosmologica del postulato della scarsità. Il principio di contraddizione fu reso operativo, traducendolo nella formula «non puoi ottenere un pasto gratis». Con l'estensione a livello cosmico del postulato della scarsità, il mondo visibile e invisibile fu trasformato in un gioco a somma zero, come se Dio, con un *big* *bang*, avesse creato *das Kapital.*

Sia l'energetismo del diciannovesimo secolo, che aveva tentato di ridurre il valore a energia, sia il monismo energetico del ventesimo secolo, ancora presente nell'Heisenberg esoterico, aderivano al mito della scienza come impresa razionale. Le cose cambiarono con *Il Tao della Fisica* di Fritjof Capra (1975). La «scoperta» dell'energia riflette ora una evoluzione della coscienza umana[2] e il recupero dell'esperienza mistica come forma superiore di conoscenza. Sotto questo punto di vista, la cosmologia della fisica moderna converge con antiche intuizioni orientali cinesi e con quelle indiane della scuola vedica di *Advaita Vedanta*[3]. Gli alchimisti si stanno forse trasformando in teologi. La teologia dell'«energia» è però tanto lontana dalla questione specifica che mi interessa quanto lo è la matematica di «E».

L'economia politica

Io non sono interessato alla teologia dell'energia ma alle superstizioni che la riguardano. Il primo seminario sulla costruzione sociale del concetto di energia si sta svolgendo presso il *Colegio de México* e questo ha per me un significato speciale. La biblioteca di questa istituzione possiede un'immensa raccolta di documenti sulle superstizioni latino-americane. Ho aiutato a raccogliere questo materiale in trent'anni di lavoro. La superstizione religiosa è stata il mio passatempo per tre decadi – non la teologia, non qualche forma particolare di religiosità popolare, ma la superstizione. Da Kriss-Rettenbeck ho imparato a chiamare *superstizioni* le credenze popolari e le forme di comportamento che vengono alla luce sotto l'egida di una chiesa. Per questo motivo esse possono essere studiate in contrapposizione ai dogmi insegnati e ai rituali diffusi dall'organizzazione e dalle ideologie promosse dalla Chiesa. In questo senso limitato, la superstizione esiste soltanto all'ombra di una chiesa potente. Lungi dall'essere una generica forma di sincretismo, essa mostra come la religiosità popolare si serva della Chiesa. Queste scabrose premesse mi hanno condotto verso la storia dell'«energia», vista come una superstizione generata dalla religione civica moderna. I suoi padri la rivelarono intorno al 1847, gli Ostwald la predicarono e i laici hanno accettato il messaggio di un risveglio spirituale verso un cosmo definito dai postulati della scarsità.

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[2] Erich Jantsch and Conrad H. Waddington, *Evolution and Consciousness: Human Systems in Transition*, Reading,Addison-Wesley, 1976

[3] Michaël Talbot, *Mysticism and the New Physics*, New York, Bantam Books, 1981

Non può esservi una storia dell'energia come costrutto sociale senza una storia del lavoro e viceversa. I destini delle due parole sono stati intrecciati da quando sono apparse nell'empireo delle parole chiave. Si tratta tuttavia di due stelle di natura assai differente. L'«energia» è stata portata all'attenzione da Young, e sembra comportarsi come una cometa lontana che cambia la sua posizione quando diviene più luminosa. Il «lavoro» è una stella fissa ben nota che emette una luce potente come quella di una *nova*, facendo ribattezzare intere costellazioni. Da Joules a Planck l'«energia» rimase confinata all'ambito accademico. Dopo Ostwald, divenne il «sacro», l'«Arcano» di un mondo in corso di secolarizzazione, una «potenza» che i fisici potevano domare. Lentamente, gli Einstein rimpiazzarono gli Eiffel nella galleria degli eroi pubblici, nello stesso modo in cui i laboratori rimpiazzarono i tavoli da disegno degli ingegneri in termini di prestigio. Durante tutto questo tempo l'«energia» continuò ad assumere una connotazione positiva. La responsabilità per la creazione della bomba A fu attribuita all'atomo. Quando il petrolio divenne una questione politica, l'energia divenne l'equivalente del petrolio: *watt* per le macchine e calorie per la gente. Nel maggio del 1972 l'editore di *Le Monde* mi chiese di eliminare la frase di apertura di un mio editoriale che voleva pubblicare, in cui avevo scritto: «l'espressione 'crisi energetica' occulta una contraddizione e consacra un'illusione». L'editore obiettò che l'espressione non era conosciuta in Francia. Poco dopo stampò un supplemento speciale di dieci pagine intitolato proprio «La crisi energetica».

Le date in cui il termine «energia» assunse nuovi significati sono facili da ricordare. Non è così per la parola chiave «lavoro». Con il significato di atto, compito, sforzo, dovere, la parola fu sempre riferita a un'azione concreta o al risultato di questa azione all'interno di un lavoro ben fatto. Verso la metà del diciottesimo secolo, poté per la prima volta significare l'aggregato di queste azioni. Dei fisiocrati calcolarono le attività utili svolte dai sudditi del re e le misero in relazione con lo stato di benessere del regno. La relazione tra il benessere e l'insieme di tali attività non era ancora percepita come il risultato della «produttività» del lavoro. Il lavoro era visto come un fattore che accelera la circolazione dei beni e questa agitazione era percepita come la condizione per l'accumulo delle ricchezze. Attorno al 1750 il lavoro, per quanto non ancora percepito come «produttivo», fu riconosciuto come fattore decisivo per la creazione di benessere.

L'idea che il lavoro non permetta solamente l'accumulazione di ricchezza ma possa creare un valore economico la dobbiamo ad Adam Smith. Per l'economista scozzese, la forza lavoro – il lavoro astratto – divenne la vera misura del valore di scambio dei beni. Il lavoro diventava qualcosa che poteva essere misurato come aggregato di attività: «il lavoro annuo di ogni nazione è la fonte originaria attraverso la quale sono soddisfatte tutte le necessità e fornite tutte le comodità della vita» (1776). L'idea di Smith secondo cui «Il profitto e la rendita costituiscono deduzioni dal valore creato esclusivamente dal lavoro» fu ulteriormente elaborata da Ricardo per distinguere tra diverse forme di lavoro: lavoro «vivo», reso liberamente disponibile dalle persone, e lavoro «passato», impacchettato come un capitale che può essere messo al lavoro. A partire dal 1821 Ricardo riconobbe che il capitale, nella forma di macchine, poteva sostituire il lavoro degli esseri viventi e divenire così un pericolo per la classe lavoratrice. Egli elaborò una teoria del valore basata sui costi: stabilendo una equivalenza tra le due forme di lavoro, egli rimase nel campo dell'osservabile. Non gli sarebbe mai venuto in mente di mettere in relazione il profitto con l'espropriazione di valore all'interno di una sfera meta-economica.

Le indagini dell'economia politica vertono sulla matrice da cui si genera il valore. Il passo da Ricardo a Marx può essere paragonato a quello da Sadi Carnot a Helmholtz. Nel 1824 Carnot analizzò la potenza motrice del fuoco. Egli formulò un gruppo di equazioni che descrive il funzionamento delle macchine a vapore. Le sue equazioni sono tuttora valide. La validità della sua dimostrazione dipende esclusivamente dalle grandezze che aveva esaminato: differenze di temperatura e lavori forniti e generati. Con Helmholtz otteniamo una spiegazione del *perché* il vapore muove il pistone. Il lavoro è il risultato di un trasferimento di energia dal carbone alla ruota: questo è ancora il modo in cui i manuali della fine del ventesimo secolo descrivono il fenomeno. In campo economico Ricardo, un contemporaneo di Sadi Carnot, diede al lavoro il valore del prezzo pagato per il tempo speso dal lavoratore. Vent'anni dopo, mentre Helmholtz lavorava all'articolo che fece di lui il pioniere della «scoperta» dell'energia, il giovane Marx rintracciava la fonte che genera il valore economico. Egli sviluppò la teoria che spiega come il datore di lavoro può appropriarsi del plusvalore del lavoro. Per Marx il potenziale che fa girare l'economia è la differenza positiva tra il tempo totale di lavoro investito nella produzione e la parte di questo che copre il costo di riproduzione della forza- lavoro. Per Smith e Ricardo il lavoratore vendeva il suo servizio, il suo concreto lavoro. Per Marx egli vende la sua *Arbeitskraft*, la sua forza-lavoro, parte della quale gli viene espropriata dal capitalista. Il parallelo tra il potenziale di lavoro della natura e del proletariato può essere sviluppato ulteriormente. Quando l'ingegnere spilla energia, questa energia produce due cose: lavoro e calore residuale disordinato che Clausius chiamerà *entropia*. Qualcosa di simile accade quando il capitalista spilla forza-lavoro. Questa produce due cose: plusvalore per lui e salario per il lavoratore, che lo spende nelle disordinate attività della riproduzione. Così la popolazione venne ridotta a matrice della forza-lavoro e la natura a matrice dell'energia, mentre i ginecologi ridefinivano le donne come quegli esseri umani destinati per natura alla riproduzione di «nuova vita».

Per quanto impiegassero gli stessi termini, ma con significati differenti, l'economia politica divenne presto irrilevante per l'economia e lo stesso accadde nel caso dell'energetica per la fisica. La «forza lavoro» che compare in un rapporto socialista sulla manodopera ha lo stesso significato che in un rapporto della Banca Mondiale. Ma proprio come i professori monisti della fisica predicavano un'energetica volgare, gli economisti marxisti amavano pontificare sulla teoria del valore-lavoro.

In modo abbastanza indipendente dai loro significati per la scienza e per l'economia, «energia» e «lavoro» divennero parole chiave del linguaggio contemporaneo. Entrambe divennero parole forti e persuasive che conferiscono un tono morale e un'interpretazione sociale peculiare alle frasi in cui compaiono. Che il «lavoro» agisca come una parola chiave di questo tipo è un fatto acquisito. Espressioni come «diritto al lavoro», «dignità del lavoro», «repubblica dei lavoratori», «impiego» e - in particolare - «disoccupazione», sono impregnate di connotazioni morali esplicite e forti. Noi siamo consapevoli della loro origine recente e spesso siamo in grado di datarne la comparsa nel discorso. Tutto questo non è successo per l'energia. Si è trascurato che la parola «energia» funziona come collante di significati la cui persuasività è basata sul mito secondo cui ciò che essa esprime è qualcosa di naturale. È così che il nostro stile di vita è potuto surrettiziamente divenire «a uso intensivo di energia». A dispetto della differente percezione pubblica delle parole «energia» e «lavoro», il «diritto al lavoro» e il «bisogno di petrolio» sono interconnessi. «Posti di lavoro e *watt*» poterono essere riconosciuti come diritti fondamentali perché entrambi furono interpretati come «bisogni fondamentali». Lo stato moderno poté essere interpretato come un'agenzia di collocamento con una pistola per proteggere la pompa di benzina. I politici poterono vincere le elezioni promettendo semplicemente «più *watt* e più posti di lavoro». L'aiuto allo sviluppo poté diffondere fino ai confini del mondo un ideale di «uomo produttore di beni di consumo assetato di energia» perché progresso venne a significare sostituzione di piedi con ruote motorizzate, sostituzione delle verdure dell'orto con cibi surgelati, sostituzione di paglia e fango con cemento, sostituzione della latrina con il WC. Il monopolio radicale del nostro stile di vita a uso intensivo di energia su paesaggio, cultura e linguaggio ha trasformato l'ideale di dipendenza energetica in una realtà senza vie d'uscita. In molti luoghi non è più possibile spostarsi senza ruote, non è più possibile mangiare senza un frigorifero, si può soffocare se non si accende un condizionatore. In questo modo il bisogno di energia – e non solo di posti di lavoro – divenne moralmente ovvio come parte della religiosità civica che accomuna, al di là delle apparenze, le forze politiche che si oppongono nella società moderna.

Banalizzare la sfera economica

Ora, improvvisamente, nelle nostre società i posti di lavoro vanno rarefacendosi. Allo stesso tempo i termini più frequentemente associati all'«energia» sono «crisi» e «scarsità» o, più sinistramente, «atomo» o «neutrone». I vari rimedi alla disoccupazione che sono proposti non ispirano molta fiducia: riduzione del tempo di lavoro, lavoro condiviso, risparmio energetico, spese per la difesa, ecologia sembrano palliativi confrontabili alla chemioterapia nella cura del cancro; se essi prolungano la sopravvivenza del nostro stile di vita, lo renderanno anche più doloroso. Senza esitazione molti contemporanei si rivolgono al computer come alla nuova panacea. Se il computer ha un effetto sull'ambiente analogo a quello dell'automobile, presto non potrete più far nulla senza di esso: niente più posta, niente più dichiarazione dei redditi, niente più diritto di voto, niente più acquisti. Un tipo di povertà completamente nuovo è all'orizzonte: la sotto-informazione. Mentre negli anni Sessanta la povertà poteva ancora essere misurata da un basso livello di consumo di energia, presto sarà misurata da un basso livello di accesso al computer. Mentre microprocessori taccagni vigileranno sulle perdite minime di energia più efficacemente di quanto facessero le donne delle caverne che custodivano il focolare, metà della popolazione insegnerà alla altra metà come impiegare il computer. Al computer è riconosciuta la capacità di creare quantità insospettate di «tempo occupato». Siamo incamminati lungo la strada che ci porta verso una società a basso profilo energetico, ossessionata dall'energia in un mondo che idolatra il lavoro ma che non ha niente da offrire alle persone. Non potremo allontanarcene fino a quando le nostre idee-guida saranno le leggi della termodinamica.

Altrove mi sono occupato delle ragioni per cui è così difficile riconoscere il carattere di costrutto sociale del lavoro che ha preso forma nel diciannovesimo secolo. Ho mostrato che il lavoro privo di connotazione di genere, teoricamente adatto sia agli uomini, sia alle donne, è qualcosa di impensabile prima dell'età moderna. Non mi è possibile occuparmi di questo argomento in questa sede. Qui mi limito a menzionare le condizioni che rendono difficile riconoscere l'«energia» per quello che è: l'ultimo simbolo del sessismo monista che trova conferma all'interno della matrice di una legge la quale afferma che il principio maschile non può essere distrutto. Menzionerò quattro di questi ostacoli: l'energetica storica, l'ecologia *soft*, la credenza nella obiettività della scienza e, infine, il sessismo epistemologico.

Il primo ostacolo al riconoscimento dell'energia come una invenzione recente sono gli occhiali indossati allorché veniamo addestrati a guardare il passato. Le aziende di pubblico servizio, incluse quelle di carattere più accademico, non cessano di molare le lenti per noi acquistando spazi pubblicitari sui giornali. Gli annunci pubblicati mostrano di solito uno scienziato di mezz'età di una certa azienda preoccupato per il futuro dei nostri bambini. Il suo messaggio è sempre lo stesso:

> […] l'energia è qualcosa di arcano […] ma ne abbiamo tutti bisogno […] non possiamo fare a meno di usarla […] nessuno ha mai potuto farne a meno […] presto si esaurirà, a meno che lo scienziato dell'annuncio trovi i finanziamenti per continuare a fare ricerca.

E poi arriva la battuta finale:

> Ricordatevi dell'uomo di Neanderthal! Quanta fatica faceva per accendere un fuoco da una scintilla; e ora pensate a voi, non avete che da premere un interruttore. Egli doveva trasportare la sua acqua, voi aprite un rubinetto […] le persone hanno sempre avuto bisogno di energia, dall'era di Stonehenge a quella dei sistemi satellitari.

Sembra che questi annunci non siano senza effetto, dal momento che toccano un punto sensibile. Più è grande la differenza che separa il «wattaggio» del loro lettore da quello di un indiano, più ridicoli sono i suoi bisogni, tanto più questo lettore è disposto a rispecchiarsi nel comportamento dei suoi antenati. Gongola di soddisfazione quando i divulgatori scientifici gli dicono che l'uomo di Cro-Magnon era aggressivo e sessista quanto lui; acclama Mary Douglas quando gli dice che ha ereditato la sua paura per l'inquinamento da antichi rituali; è confortato nell'apprendere che l'australopiteco era dipendente dall'energia quanto il Signor Rossi dei nostri tempi.

Il secondo ostacolo al riconoscimento dell'«energia» come concetto interpretativo dell'esistenza umana è stato creato, almeno in parte, dalla propaganda della «via *soft*». Provo imbarazzo per il fatto che io stesso non ho riconosciuto questo pericolo in passato. Quindici anni fa ho lavorato a un modello multidimensionale di soglie oltre le quali gli strumenti tecnologici diventano controproduttivi. Per sostenere le mie tesi ero allora lieto di trovare altri che si occupavano di contabilità energetica. Ero felice di poter confrontare l'efficienza di un uomo e quella di un motore che azionavano la stessa bicicletta e di concludere che l'uomo usciva vincitore dal confronto. Ero molto contento di appartenere alla razza che aveva inventato i cuscinetti a sfera e i pneumatici quando scoprivo che su di una bicicletta io ero più efficiente dal punto di vista energetico di uno storione del mio stesso peso che nuota nel mare. Da allora mi sono spesso servito del confronto tra la quantità di energia necessaria a mettere una palla di riso nelle mani di un contadino birmano e sulla tavola di un ristorante di New York. Come esercizio intellettuale questi confronti in termini di «E» sono certamente un utile *tour de force*. Tuttavia, in quegli anni non coglievo il loro potere di seduzione riduzionista. Allora sapevo come distinguere tra transito e trasporto, tra una persona, auto-mobile grazie ai suoi piedi, e il passeggero immobilizzato che dipende dal trasporto. Non ero tuttavia consapevole del fatto che misurando entrambe le forme di locomozione in termini di *watt* rendevo me stesso e i miei lettori ciechi rispetto alla differenza tra le due. Le persone e i motori non si muovono attraverso lo stesso tipo di spazio. Le persone auto-mobili creano culturalmente uno spazio comune (*commons*) in cui camminano e rimangono nel raggio d'azione dei loro piedi assecondando il ritmo autolimitante dei loro corpi. I veicoli tendono ad annichilire gli spazi comuni e a trasformarli in illimitati corridoi di passaggio. Trasformando gli spazi comuni in risorse per la produzione di chilometri-passeggero, i veicoli riducono il valore d'uso dei piedi. Essi omogeneizzano il paesaggio, lo rendono non transitabile per poi catapultare le persone da punto a punto. Associando una quantità di energia all'uomo a piedi faccio inevitabilmente il gioco degli ecologisti che oscurano questa distinzione e rendono spazi comuni e risorse spaziali un unico amalgama. Servendomi di una contabilità energetica per misurare le distanze coperte dai contadini e dai pellegrini medioevali suscito inevitabilmente l'illusione che nel loro *milieu* vigesse un regime di scarsità, come nel nostro ambiente, e che essi andassero alla ricerca di modalità di autotrasporto energeticamente efficienti.

Quando si accetta quest'amalgama si incoraggia la comparsa dell'«ecocrate». Questa figura sostituisce quella del tecnocrate, la cui autorità era limitata all'amministrazione delle persone e di quelle macchine sociali che sono le istituzioni. Gli scopi dell'«ecocrate» invece trascendono queste istituzioni; i suoi strumenti di controllo amministrativo inglobano la natura. Simbolicamente l'«ecocrate» abbatte il confine che separa la società dal mondo selvaggio, quel confine che è stato tradizionalmente la sede delle streghe. Egli vede se stesso come un olista in quanto considera la società e il suo ambiente come due sottosistemi di un tutto che funziona. L'emblema di questa nuova sintesi è il computer. A prima vista sembra un simbolo tanto radicalmente nuovo, quanto lo era la macchina a vapore quando sostituì l'orologio come simbolo dominante; ma le cose non stanno in questi termini. Perché la «macchina che lavora» potesse assurgere a simbolo della natura e della società la scienza doveva essere basata sui nuovi assunti delle leggi termodinamiche. Il computer e la teoria dell'informazione non hanno indebolito la nostra dipendenza da questi assunti né teoricamente, né ideologicamente. La maggior parte degli stili retorici e delle correnti di pensiero che si spacciano per alternativi rinforzano i vecchi simboli dei valori scarsi: *lavoro*, *energia*, *produzione*. Il computer viene dipinto come il grande economizzatore ed economista che addolcirà il lavoro rendendo energia e impiego più efficaci, più decentralizzati, più flessibili e complessi. Come al tempo delle fabbriche Destra e Sinistra rinforzarono gli assunti dell'epoca attraverso la loro opposizione, così la nuova opposizione tra via *soft* a via *hard* cementa la dipendenza della società da un gioco a somma zero. Tuttavia, io credo che, ora più che mai, noi abbiamo a disposizione una scelta. Il computer potrebbe divenire il simbolo attraverso il quale la società viene divisa da una linea di separazione in un modo nuovo. Non sto parlando qui di quella «economia duale» che sembra profilarsi all'orizzonte, con le sue due sfere a bassa e alta produttività. Sto parlando di una più profonda divisione, che prescinde da questa polarizzazione. Sto parlando dell'individuazione di due domini distinti all'interno della società: da un lato l'economia regolata dall'assunto di un nostro bisogno di merci che, anche nei casi in cui ci sembrano disponibili in abbondanza (si pensi per esempio ai *bit*) sono per loro stessa natura scarse; dall'altro lato una sfera dell'esistenza che si separa gradualmente dalla prima e a cui si può accedere disconnettendosi dagli assunti termodinamici dell'economia. Lasciamo che la scienza e l'intelligenza artificiale gestiscano la produzione e la distribuzione di quei pochi prodotti di base di cui tutti hanno bisogno e che possono essere disponili in quantità sufficienti per ognuno e lasciamo che la maggior parte delle persone trascorra una parte ampia a piacere della propria vita disconnessa da lavoro, *watt* e *bit*. Non sto assolutamente parlando né come un romantico che auspica un ritorno alla vita dei boschi, né come un luddista in rivolta contro i microprocessori. Quello che auspico è un passo oltre Karl Polanyi. Grazie a lui ho compreso che la separazione (*disembedding*) che fece emergere l'economia formale non poteva che distruggere i beni comuni, creando quelle condizioni per cui la vita sociale venne a coincidere quasi completamente con l'economia. Io sto suggerendo di prefigurare la separazione di una nuova sfera di libertà in cui venga esorcizzata la percezione, creatasi di recente, secondo la quale siamo creature sottomesse al bisogno.

Certamente il progetto di banalizzare la sfera economica e subordinarla a una sfera di libertà sociale è controcorrente rispetto a tutte le ideologie nate dalla credenza nell'energia e nel lavoro. La banalizzazione dei valori economici è anche controcorrente rispetto ai miti di base su cui la scienza e l'etica contemporanee sono costruite.

Questo ci porta al terzo principale ostacolo al riconoscimento dell'«energia» come illusione che crea dipendenza: la nostra riluttanza a riconoscere nei principi fondamentali della scienza i miti che hanno legittimato la modernità. J.C. Maxwell, divenuto famoso per la teoria dell'«etere cosmico», aveva già riconosciuto il principio di conservazione dell'energia per quello che era: una *legge* nel senso di una «dottrina produttrice di scienza». Come il suo contemporaneo Planck, egli sapeva che questa cosiddetta legge della natura fu riconosciuta prima che l'energia fosse scelta come espressione del suo valore. Storicamente e psicologicamente, la *convenzione* secondo cui la natura, come i cittadini del diciannovesimo secolo, deve vivere nella matrice di un gioco a somma zero fu precedente all'individuazione del valore in gioco. Solo, in seguito questo valore prese la forma di una funzione, vale a dire «E». Il progresso delle scienze sociali andò nella stessa direzione. Le interazioni sociali furono ridotte a scambi e i soggetti a giocatori di ruolo, tra i quali gli scambi avevano luogo. L'ambiente perfettamente neutro dello scambio è un presupposto implicito in tutte le scienze basate su principi di conservazione e il suo paradigma è l'energia.

Esiste infine una quarta ragione che rende quasi impossibile prendere le distanze dagli assunti di energia e lavoro senza sembrare immorali. L'immagine dell'essere umano nella nostra società dipende da tali assunti. Questo ideale di essere umano – che io considero sessista – è difeso sia dalle donne, sia dagli uomini. Le prime hanno le stesse difficoltà dei secondi a riconoscere il carattere sessista della definizione di essere umano attraverso il potenziale di lavoro. Questo potenziale divenne l'elemento cruciale per definire l'umano tra la generazione di Carnot e Ricardo e quella di Marx e Helmholtz. Fino ad allora gli uomini non facevano quello che facevano le donne e viceversa. Fino ad allora in tutte le comunità i compiti e gli strumenti erano suddivisi in due metà e la suddivisione era differente in ogni comunità. Questa suddivisione fu trascesa - in teoria e in pratica - attraverso la costituzione della forza lavoro. Il lavoratore privo di genere nacque dalla matrice della forza lavoro così come l'«energia» fu un prodotto della legge di conservazione. E questo lavoratore privo di genere abita un universo in cui tutto è fatto da una sola sostanza: l'energia.

In uno studio magistrale Brian Easlea[4] tracciò le tappe della creazione di questo universo dalla caccia alle streghe sino alla costituzione della donna vittoriana. Egli descrive come durante il diciassettesimo secolo i filosofi naturalisti iniziarono a bandire concettualmente la vita dal cosmo e simultaneamente a minimizzare il ruolo delle donne nel concepimento. Passo dopo passo essi arrivarono ad affermare la realtà di una materia pura, una natura inerte agitata dalla *vis viva*. Essi riuscirono a ridurre la materia a pura *mater*, la madre amorfa delle cose, un puro utero, matrice informe pronta a ricevere il seme delle potenze paterne; niente di più che una mera cornice nella quale la forza virile poteva generare tutte le cose. In questo processo la *materia/mater* divenne logicamente inconoscibile in quanto amorfa e fisicamente non osservabile, niente di più che un presupposto senza forma. Lo studio di questo principio necessario e complementare dell'esistenza fu così escluso dalla scienza per definizione. La scienza divenne la conoscenza di forze virili e delle forme che queste assumono. Negli anni Quaranta dell'Ottocento il loro complemento riapparve come la matrice e la legge che esalta la conservazione della energia virile, prima legge del cosmo e fondazione della scienza moderna.

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[4] Brian Easlea, *Witch Hunting, Magic and the New Philosophy. An Introduction to the Debates of the Scientific Revolution, 1450-1750*, Brighton (Sussex), The Harvester Press, 1980

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